

# The Chemical Age

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## Contents

	PAGE
EDITORIAL NOTES: The British Association Meeting; An Industrial Jubilee; The Potash Situation.....	185
Recent Chemical Elections and Distinctions: Photographs With the Chemical Engineers to Canada and the United States.—(II) .....	187
The Future of By-Product Ammonia, by C. J. Ramsburg ..	188
From Week to Week .....	189
References to Current Literature .....	192
Patent Literature .....	193
Weekly Chemical Prices and Market Reports.....	194
Company News; New Trade Marks; Chemical Trade Inquiries .....	197
Commercial Intelligence; New Companies Registered.....	202
MONTHLY METALLURGICAL SECTION: The Production and Uses of Tellurium, by Dr. G. M. Dyson, etc.....	204

**NOTICES:**—All communications relating to editorial matter should be addressed to the Editor, who will be pleased to consider articles or contributions dealing with modern chemical developments or suggestions bearing upon the advancement of the chemical industry in this country. Communications relating to advertisements or general matters should be addressed to the Manager.

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## The British Association Meeting

SEPTEMBER is the month of meetings and congresses, when those engaged both in science and industry meet to discuss their work, in order to keep in touch with advances in theory and practice. The party of members of the Institution of Chemical Engineers and of the Society of Chemical Industry which is visiting Canada and the United States has already crossed the Atlantic and commenced its tour. Next week the British Association meeting in Glasgow commences, and the organising committee of Section B (Chemistry) has planned a programme on rather unusual lines, with the object of giving an opportunity for the discussion of the results of modern investigations.

Section B commences its labours on Thursday, September 6, when the president, Professor E. C. C. Baly, F.R.S., of Liverpool University, will give his address, entitled "Fluorescence, Phosphorescence, and Chemical Reaction." In view of the work on which Professor Baly has been engaged in the last few years, the address will be heard with great interest. On Friday, September 7, there will be a discussion on fermentation, opened by Dr. J. Vargass Eyre, of the Distillers' Co. The discussion will be devoted chiefly to the chemical and physico-chemical aspects of fermentative processes, and as, in addition to Dr. Eyre,

the participants include Mr. Julian L. Baker, Dr. A. C. Thaysen, Mr. H. F. E. Hulton, and Mr. W. Rintoul, it will certainly command attention from those engaged in industry. On the same day (and again on the following Monday and Tuesday) there will be an exhibition of cinematograph films. This method of illustrating chemical operations is coming increasingly into use, and in the present instance a very fine collection of films will be displayed. Imperial Chemical Industries have provided the following: "The Story of Beautiful Colours," "Gold from Grass," "Buxton Quarry Blast," "Slow-Motion Picture of a Big Blast," and "Sulphur Mining." Kodak, Ltd., have lent the following: "Iron Ore to Pig Iron," "Pig Iron to Steel," "A Trip Through Filmland," and "The Making of a Fine Chemical." Sir James Irvine, F.R.S., has lent a film on "The Combination of Molecules." After seeing this collection the most high-brow of chemists must surely become a confirmed "movie" enthusiast.

In order to initiate a discussion on the transfer of energy between molecules, Dr. E. K. Rideal, assisted by Mr. G. Smith, will give practical demonstrations of light reactions, on Monday, September 10. The demonstrations, numbering altogether thirteen, will illustrate the excitation of light emission by physical processes, light emission in gaseous reactions, and light emission in solutions. This is a very welcome departure. More use ought to be made of the British Association meetings to give demonstrations of this kind to chemists who normally only read and hear about them, and Dr. Rideal is assured in advance of a very full house. On Tuesday, September 11, Sir William Pope, F.R.S., will open a discussion on "Recent Advances in Stereochemistry," to which subject he has made numerous original contributions, more especially with regard to the production of optically active compounds of various elements. Others who will join in the discussion are Professor J. Kenner, F.R.S. (who has published work on the optical activity of diphenyl derivatives), Professor H. J. Backer (of Holland), and Dr. N. V. Sidgwick, F.R.S.

An old and excellent feature of British Association meetings has been the opportunity given of visiting local works, and in the present instance the committee have in this respect acquitted themselves nobly. Visits will be made to R. and W. Watson, paper makers; R. and J. Tennant, of the Wellpark Brewery; the Ardeer factory of Nobel Explosives, Ltd., now a part of Imperial Chemical Industries; the Corporation Gas Works, Maclaurin Plant, Dalmarnock; Provan Gas Works; Provan Chemical Works; and Shanks and Co., Ltd. Mention may finally be made of a signal honour which has this year been paid to the chemical section. It is the custom, at meetings of

the British Association, for men of eminence to be chosen to give special evening discourses, of a general and popular kind, to the whole of the Association. This year one of the two discourses will be given by Professor F. G. Donnan, F.R.S., who will deal with "The Mystery of Life."

### An Industrial Jubilee

ON September 1, Colonel Sir Edward Allen Brotherton celebrates the fiftieth anniversary of his foundation of the firm now known all over the world under the title of Brotherton and Co., Ltd., and this is a fitting occasion on which to offer him thanks for his great public services. In the fifty years which have elapsed since 1878, the firm has gone from strength to strength, and its founder has shown energy and generosity in every phase of civic and national activity. He has been Mayor of Wakefield and Lord Mayor of Leeds, and has represented Wakefield in the House of Commons. The University of Leeds has cause to be particularly grateful to him: in 1922 he gave £20,000 for the establishment of a University chair of bacteriology, while last year he made a gift of £100,000 to the University for the erection and equipment of a new library as part of its great extension scheme. Chemical industry has every reason to be proud of one who has given so freely and wisely, both in energy and money, to public service.

### The Potash Situation

THE monopoly enjoyed by the German and French producers of potash has put them in a remarkably strong position. The fact that they market an indispensable commodity has enabled them sometimes to act almost as dictators, and the growing importance of mixed fertilisers has made them a more and more important factor in the calculations of the producers of other forms of fertilisers. Even the I.G., which has always seemed all-powerful in Germany, has had to treat the German Potash Syndicate with great respect; it is said, indeed, that in order to obtain potash for its mixed fertilisers, the I.G. has been forced to make an arrangement whereby the destination of all its potash-containing products is revealed. Not unnaturally other sources of potash have long been sought by those in need of it. The much-discussed exploitation of the Dead Sea salts is, of course, closely bound up with this question. Recently, also, large deposits of potash were discovered by the Russians at Solikamsk, and this discovery has excited much interest.

In Germany and the United States, potash has recently been the subject of many rumours, which are of interest in this country in that they affect Imperial Chemical Industries. It has been freely rumoured in Germany for some time that the German Potash Syndicate were anxious to form some sort of understanding with I.C.I. It was not merely a question of delivering potash supplies to the latter, said the reports, but of actually co-operating with them in the production of mixed fertilisers. Recently it was stated that the negotiations had proved abortive. It is only fair to add that the German technical Press has cast grave doubts on the accuracy of these reports, in which it seemed to be implied that the co-operation

which the German Potash Syndicate desired with I.C.I. was in some way directed against the I.G. According to the German Press, the understanding between the various producers of synthetic nitrogenous fertilisers is too good for such an alliance to be formed.

In the United States, the reports and rumours have taken a different direction. It is there stated that I.C.I. will not, while it hopes to get potash from the Dead Sea salts, involve itself in potash agreements. On the other hand, it is pointed out that I.C.I. is paying attention to the question of producing potash in Nova Scotia, as exemplified by its recent acquisition of the Malagash Salt Co. The most remarkable aspect of the American rumours, however, is their preoccupation with the Russian potash deposits at Solikamsk, in regard to which many conflicting statements have been made. It is asserted that a British concern operating in Russia is negotiating with the Russians for the right to share in the exploitation of the Solikamsk deposits (it being assumed in Germany that the British company referred to is Lena Goldfields). This is another way, according to American opinion, in which British potash requirements could be satisfied. Finally, the suggestion has been made that the I.G. is also keenly interested in Russian potash, apparently with the object of bringing it to Norway for incorporation in mixed fertilisers (presumably by its associate, the Norsk Hydro concern). The reason for the complicated nature of the latter suggestion is probably that Russian potash, if used by the I.G., would be used only in fertilisers for export trade.

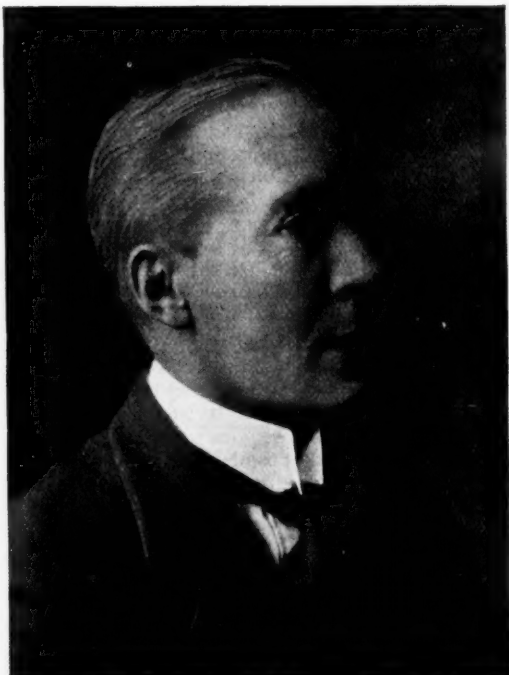
### Books Received

- GLYCEROL AND THE GLYCOLS. By James W. Laurie. New York: The Chemical Catalog Co., Inc. Pp. 447. \$9.50.  
REPORT ON THE TRADE, INDUSTRY AND FINANCE OF SYRIA. Dated May, 1928. By H. E. Satow. London: H.M. Stationery Office. Pp. 35. 18.

### The Calendar

Sep.			
3-7	Society of Chemical Industry: Annual General Meeting.	New York, U.S.A.	
4-7	Institute of Metals: Annual Meeting. Seventh Autumn Lecture: "Non-Ferrous Metals in the Shipping Industry." F. G. Martin.	Liverpool.	
5-12	British Association Meeting.	Glasgow.	
5-22	Machine Tool and Engineering Exhibition. Daily, 11 a.m. to 9 p.m. Saturdays, 10 a.m. to 10 p.m.	Olympia, London.	
10-14	American Chemical Society: 76th meeting.	Swampscott, Massachusetts.	
20-22	Mining Institute of Scotland: Excursion to Lochaber Hydro-Electric Works, Fort William.		
24 Oct.	World Power Conference. Fuel Conference.	Imperial Institute London.	
Oct.			
1-13	Daily Dispatch Second Artificial Silk Exhibition.	City Hall, Deansgate, Manchester.	
10 & 11	Ceramic Society: Building Materials Section. "Modern Facing Bricks," A. B. Searle. "Thermal Insulation," Colin Presswood. "Modern Brick Machinery and Works Layout," The Pragos Engineering Co.	Stoke-on-Trent.	
13 & 14	Ceramic Society: Refractory Materials Section Meeting.	Glasgow.	
19-22	First Convention of the British Glass Industry.	Bournemouth.	
21	Society of Glass Technology.	Bournemouth.	

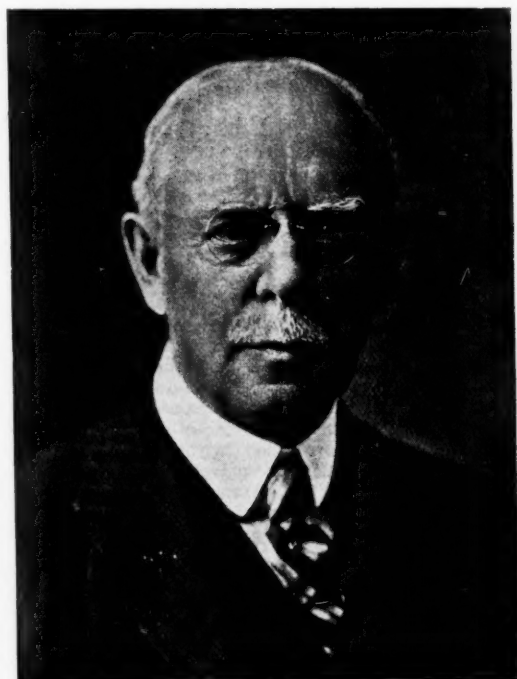
### Recent Chemical Distinctions and Elections



PROFESSOR F. G. DONNAN, F.R.S.  
*Delivering an Evening Discourse on "The Mystery of Life" before the British Association.*



COLONEL SIR EDWARD A. BROTHERTON.  
*Founder of Brotherton and Co., who is celebrating the jubilee of the foundation.*



DR. A. D. LITTLE.  
*Nominated for the Presidency of the Society of Chemical Industry.*



MR. J. P. MULLEN, M. ENG.  
*Appointed Lecturer in Chemical Engineering at University College, London.*



## With the Chemical Engineers to Canada and U.S.—(II)

By Our Special Correspondent

*The issue of THE CHEMICAL AGE for August 18 contained the first of a number of articles on the visit to Canada and the U.S.A. of the members of the Institution of Chemical Engineers and the Society of Chemical Industry. Below is published the second article of the series, just received from our special correspondent travelling with the party.*

*s.s. Megantic, Saturday, August 18.*

WE are now in the Gulf of St. Lawrence, expecting to get off this rather ancient vessel some time on Sunday. A week's experience on board has effectually dispelled the idea that this is a mere pleasure party. The amount of earnest work and conversation is almost indecent. As I am jotting down these notes, I see Professor Jocelyn Thorpe with a pile of MS. before him, giving the finishing touches to an address he has written entirely on board on "A Hundred Years of Organic Synthesis," a subject which, he has remarked more than once with a chuckle, can be treated in a fairly broad, general way. Mr. Carr finished his presidential address before leaving home, but it is rumoured that he has been giving private auditions—I think that's the right term—to critics of repute, with quite satisfactory results. Mr. Carr is going to Swampscott for the American Chemical Society's meetings, and has promised them an address also.

Sir Alexander Gibb I have not seen at any form of serious work, but he has been notably active in juvenile sports of every sort. This, in the case of elderly people, is a mistake. I speak with some feeling, because, having worked up to the semi-final stage in the deck tennis tournament with the excellent aid of Miss Carr as partner, I am now dreading a call to go forth and do battle with Mr. Banks (of the Brunner-Mond works at Winnington), one of the tallest men on board, and young Smith, the smallest and brightest boy that America ever produced. The tournament could willingly go overboard for the sake of a quiet restful morning. Mr. Parrish I rarely see without a volume of serious reading or a notebook, and yet I hear that he has set an excellent example of general activity to the three young colleagues in his charge. He also is going to Swampscott, and will probably say something on the future of the by-product industry that should appeal to American gasworks people. Dr. Farmer is often at the writing desk between his deck adventures in golf and shuttleboard. Everybody, in fact, seems at times to have serious work on hand. Nevertheless, they find a little spare time for pleasant recreation.

Although the third tourist party are supposed to be segregated in another part of the ship a very effective liaison service has been set up, and the two sections have seen a good deal of each other. For sheer jolliness I think those travelling tourist have set up a ship's record. Whenever we have visited their quarters they have been engaged in frivolities of one kind and another, in which Dr. Colgate, Mr. F. A. Greene, Mr. Holliday, and many more have been prominent figures.

This morning I met Professor Hinchley out for an early breather before breakfast. Not quite the best of sailors, he has stood the ordeal nobly, but I fancy he will be relieved to step off the deck at Quebec. With him was his colleague, Mr. Ure, engaged in making calculations of the mileage we are destined to cover in the next fortnight, and looking forward eagerly to meeting our American colleagues.

On the whole it has been quite a pleasant voyage, yet I fancy most of us will be glad when we get to Quebec. The weather has not been too good, and two nights in particular have been distinctly rough, but a small band of us have got through without once vacating our seats in the dining room.

There have been some distinctly pleasant incidents. One of the pleasantest and most flattering has just occurred to me. We have Cardinal Sincero on board, on his way to pay a visit to his brother cardinal at Quebec, and the messenger boy, walking into the lounge with a number of wireless messages, came straight up to me and asked: "Are you Cardinal Sincero, sir?" Like the reporter at General Booth's early meeting who was asked whether he was saved, one felt inclined to reply: "No, brother, I'm a reporter."

There was one spectacle that very few people on board will forget. It was the magnificent fleet of icebergs that we passed just as we were approaching Belle Isle yesterday morning. Fog is the one thing to be dreaded about that part, and fortunately the previous night was clear and the morning broke sunny and promising.

We caught the first glimpse of the ice on the skyline in the morning, and within an hour we were steaming past great floating islands of ice, which the arithmeticians assured us numbered exactly 29. They were very beautiful, with cliffs exactly like one finds on the coast, worn away by erosion at the foot and overhanging at the top. One great berg was the largest any of the ship's staff had ever seen. It had an outline something like the south coast of the Isle of Wight seen from sea, and it was variously estimated to be from  $3\frac{1}{2}$  to 5 miles long. The ice fleet made a glorious spectacle, but it was distinctly nicer meeting it on a bright morning than during a foggy night. We have noticed on the way very few sea birds, and not more than two or three liners, but quite frequently a bulky, well-fed whale has saluted us from quite a near distance with a vigorous blow.

Everyone is now turning his thoughts to the land cruise. During the week there has been opportunity for all to get known to one another. The groups of individuals have been welded into a family, and there is every prospect of a very jolly railway trip in front of us.

F. E. H.

### Remaining Itinerary of the British Party

THE British party of members of the Institution of Chemical Engineers and of the Society of Chemical Industry reached Akron at the beginning of the week, and spent a day in inspecting various rubber plants. From Akron the party went on to Pittsburgh, visiting fuel research laboratories, the Mellon Institute, and a glass works. The following day was spent at Wilmington, Delaware. In this area are situated the works of the du Pont de Nemours Co., some of which were inspected. The party was also entertained by Mr. Pierre S. du Pont at his country home. Three days were spent in Washington. On September 3 the party will reach New York, where the annual meeting of the Society of Chemical Industry will be held. In the United States, September 3 is a holiday, Labour Day, and therefore no technical sessions have been arranged, the day being spent in sight-seeing. The annual meeting takes place on September 4, Mr. F. H. Carr delivering his presidential address. Thursday is devoted to technical sessions on the electrodeposition of rubber, natural gas, the lacquer industry, etc., and the annual banquet of the Society of Chemical Industry will be held in the evening. The next day will be devoted to excursions, and on Saturday, September 8, the return journey to England will commence. Some of the members of the party are going on to the meeting of the American Chemical Society at Swampscott, held in the period September 10 to 14.

## The Future of By-Product Ammonia

By C. J. Ramsburg

The article published below is an address which was given by the author, who is vice-president of the Koppers Co. of Pittsburgh, at this year's convention of the National Fertiliser Association of the United States. It should be noted that, except where otherwise stated, the figures refer to the United States.

THERE have been three distinct periods of industrial development: mechanical, electrical and chemical. I think that it is fair to say that we entered the period of significant chemical development during the world war, and that since that time the influence of chemical engineering and chemical

will have doubled in the ten-year period, 1919-1928. And now comes the important fact. This rapid rate of increase in by-product ammonia production, which has been witnessed during the past 15 years, is not likely to continue.

By-product coke has replaced all but 15 per cent. of the coke produced in the United States, rising from 27.5 per cent. in 1913 to 86.2 per cent. in 1927. By 1929, this figure will probably be at least 90 per cent., but the 10 per cent. of beehive coke remaining will decrease but slowly. The iron industry is now practically saturated as regards coke product, and new ovens for this industry will be built only in proportion to the secular increase in iron requirements. By-product coke plants will be built for city gas and for domestic fuel supply, but such plants, even though many in number, cannot be a large factor in increasing the production of by-product ammonia. At present a large number of cities in the United States receive a substantial part of their gas from coke ovens. About 20 per cent. of the gas distributed by manufactured gas companies now comes from coke ovens.

The gas industry is a unit in the belief that in the future the base load gas for practically all locations will be coke oven gas or coal retort gas, and for this reason there will probably be a large number of small and some large plants built in the future. But so far as ammonium sulphate from such plants is concerned, the production cannot be a great factor, compared to the amount already being produced. For example: A plant is now being built in Philadelphia which will produce approximately 35 per cent. of the entire gas requirements of that city. The production of sulphate in this plant will amount to but 7,000 to 8,000 tons per annum. This is a large gas plant, but its output of ammonium sulphate will be less than 0.9 per cent. of the estimated production of by-product sulphate for 1928.

This brings me to the thought at the beginning of this paper, namely, that this is a chemical age. Already the chemist and the engineer, spurred by economic necessity, have developed methods for the fixation of atmospheric

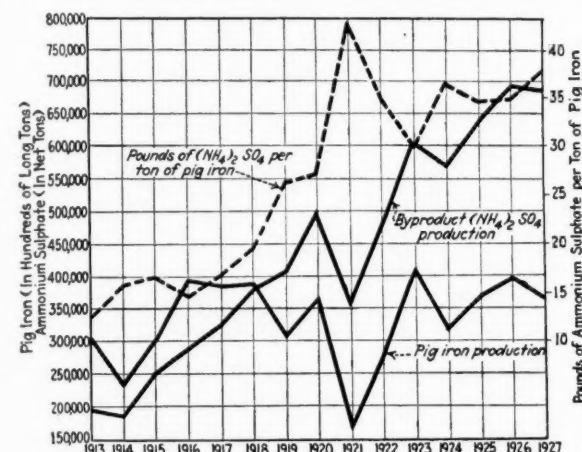


FIG. 1. COMPARISON OF BY-PRODUCT AMMONIA AND PIG IRON PRODUCTION, SHOWING INCREASING RATIO PER TON OF PIG IRON (UNITED STATES).

research has been greater than that of any other branch of technical knowledge.

When the human race has its back against the wall fighting for existence and continuance, development is quickest and surest. For this reason, the chemical development in the fixation of atmospheric nitrogen made rapid and enormous strides during the world war. For the same reason, the by-product coking industry made such remarkable progress during the same period, particularly in America.

I have been asked to present the outlook for by-product ammonia as it appears to-day. The point which I am going to try to bring forward is that the increase in the consumption of nitrogen in agriculture and in industry is such that we can no longer depend on by-product ammonia to maintain the proportion of the market which it has been holding in the past ten years. The reason is not far to seek.

Fig. 1 illustrates what has been going on in the coking industry in connection with the iron industry. To-day there is three times as much sulphate of ammonia produced per ton of pig iron as was produced in 1913. In 1913, practically 73 per cent. of the pig iron produced was made from beehive coke, with no ammonium sulphate production. In 1927, only about 10 per cent. of the pig iron was produced from beehive coke. In 1925, there were in the United States and Canada approximately 11,700 by-product coke ovens. Since that time, additions built, put in operation, or contracted for give 13,566 ovens. Table I and Fig. 2 are summations of the ovens in operation prior to 1926, together with those built or contracted for up to January 1, 1929.

TABLE I.  
By-Product Coke Ovens—Built or Contracted for as of June, 1928.

	No. of Ovens.	Annual Coal Capacity Net Tons.	Annual Ammonium Sulphate Production, Net Tons.
Prior to 1926 .....	11,660	49,061,339	633,649
1926 .....	617	5,198,150	57,200
1927 .....	384	3,127,323	34,390
1928 .....	905	8,824,560	97,100
Total January 1, 1929 ...	13,566	66,211,372	822,339

As shown in Fig. 3, the by-product ammonia production of 1928 is estimated at four times that of 1913. In the six-year period, 1913-1919, the production doubles, and again

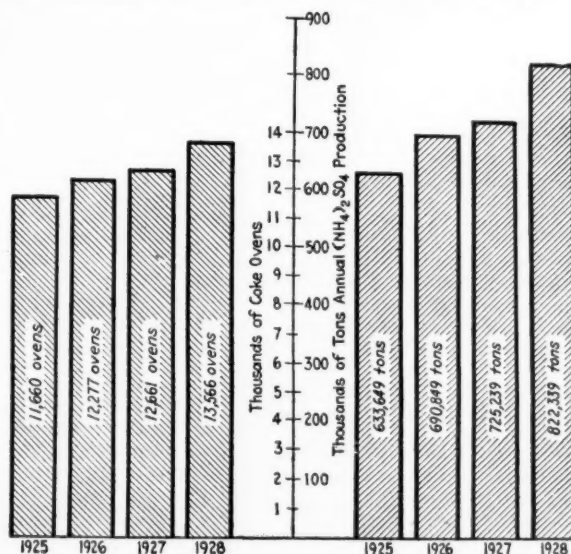


FIG. 2. FOUR YEARS OF PROGRESS IN BY-PRODUCT COKE PRODUCTION (UNITED STATES).

nitrogen, which have attained great commercial success. As shown in Table II, synthetic ammonia is now a large factor of growing importance in the world's nitrogen production. In 1926-27, synthetic ammonia furnished 56 per cent. of the world supply of nitrogen and on an equivalent basis, was over

five times the by-product ammonia production in the United States. In the United States, the picture is somewhat different. In the fertiliser year 1926-27, the distribution of nitrogen for the United States was about as follows: By-product ammonia furnished 47.5 per cent. of the total for the country, and synthetic nitrogen only 6 per cent. In this period

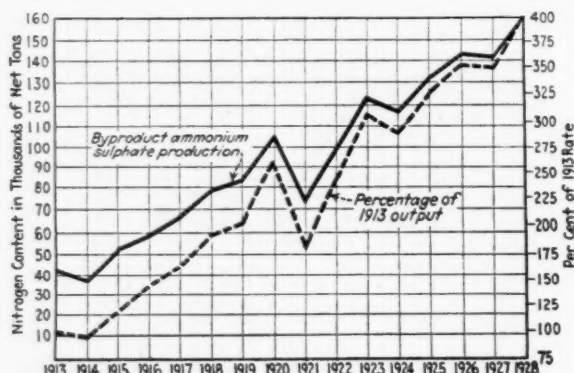


FIG. 3. BY-PRODUCT AMMONIUM SULPHATE PRODUCTION, 1913 TO 1928. (UNITED STATES)

there was produced in the United States 37.6 per cent. of the world's production of by-product ammonia and only 2.4 per cent. of the world's production of synthetic ammonia.

The synthetic production of nitrogen in the United States and the world will increase to meet the inevitable increase in demand for nitrogen, which will occur at a rate beyond the power of the by-product coking industry to satisfy. By-product ammonia will continue to be produced in slowly increasing quantities. Incidentally, the growth of synthetic nitrogen compound production will cause a slight increase in by-product ammonia, due to the demand for coke to supply hydrogen gas for the synthesis. This amount, however, will be insignificant in comparison with the synthetic nitrogen compounds resulting.

TABLE II.

World Production of Nitrogen.					
Year ending May 31.					
				1923-4	
				Net Tons	Per Cent.
By-product ammonia from coal-sulphate equivalent.....				1,682,000	29.8
Chilean nitrate-ammonium sulphate equivalent.....				2,157,800	32.0
All synthetic nitrogen-ammonium sulphate equivalent.....				1,807,000	38.2
Total nitrogen-ammonium sulphate equivalent.....				5,646,800	100.0
U.S. by-product ammonia from coal, per cent. of world production of nitrogen.....					
1924-5		Per Cent.	1925-6	Per Cent.	1926-7
Net Tons.			Net Tons.		Net Tons.
1,738,200		28.2	1,837,000		25.8
1,960,000		31.8	2,129,000		29.9
2,465,500		40.0	3,155,000		44.3
6,163,700		100.0	7,121,000		100.0
.....		9.2	.....		8.9
.....		.....	.....		10.4

#### Potash Salts from Leucite Ores

THE production of soluble potash salts and other chemicals from leucite ores will be undertaken in the near future by a new plant which is being erected at Novara, Italy, and which is expected to be in operation by the end of the year. The Montecatini Co. has perfected a process for the treatment of leucite, and has acquired important deposits of the material. The company has not revealed any detailed information as to the process, plant capacity, etc., but it is understood that it has already been tried out on a semi-commercial scale and that the potash will be treated with nitric acid to obtain potassium nitrate. The production of soluble potash salts and other chemicals from leucite was undertaken several years ago in Italy under the leadership of Baron Blanc. The plant established at Bussi is now in operation, although it did not function last year owing to difficulties in obtaining supplies of chlorine for the manufacture of hydrochloric acid. It is also planned to extend the organisation and operate the process in a plant at Civita Castellana which formerly belonged to the Societa Vulcanica. The equipment of the old Cengio plant will be removed to Naples for use by an American company which intends to produce alumina from leucite.

## Nitrate Sales Scheme

### Detailed Arrangements

THE Chilean nitrate producers have formed a Nitrate Sales Corporation, with headquarters in Valparaiso, of which the membership includes all the producers, with the exception at present of the Anglo-Chilian Consolidated Nitrate Corporation and the Grace Nitrate Co. The new corporation will lay down rules binding on all its members for the sale of their output of nitrate. For the United States, and a few other markets, prices f.a.s. Chile will be fixed. For all Europe, for Egypt, and for some other markets a number of houses with large existing connections in the distributing trade will be appointed to distribute nitrate up to certain authorised quantities in certain named markets. Their operations will, so soon as the system is in full force, be carried on for account and risk of the producers under detailed regulations laid down by the corporation. Applications for appointment as authorised distributors are at present being received and examined.

Prices have been fixed for Great Britain and Ireland, the basis being five-ton lots, cash payment. It is intended that the prices shall be widely known, so that buyers of any quantity, small or large, shall have the opportunity of purchasing at the exact price announced, with no other addition whatever except the appropriate surcharge when they buy on credit. The British prices are given on p. 199.

The Corporation will protect its buyers from losses resulting from any future reduction of the Corporation's selling prices by means of bonuses on ascertained stocks at a rate equal to the fall in price. This protection will be forfeited by anyone who fails to observe the regulations in the letter and the spirit.

### Chemical Samples Imported by Sample Post

THE importation of dutiable goods by Sample Post is in general prohibited, and goods so imported are liable to forfeiture. Packages containing *bona fide* trade samples of, among other goods, chemicals liable to Key Industry Duty (other than such goods falling within the provisions of the Dangerous Drugs Act, 1920, or the Dyestuffs (Import Regulation) Act, 1920), if conspicuously marked with particulars of the contents and a statement that they are *bona fide* trade samples, are permitted to be imported by the Sample Post, on payment of duty where chargeable. The maximum limit of weight is 8 oz., and the duty payable is 33½ per cent., *ad valorem*, with an additional Post Office fee of 6d. per clearance. Packets must comply strictly with the Post Office Regulations, regarding the Imperial and Foreign Sample Post, and must be addressed "C/o the Officer of Customs and Excise, Mount Pleasant Depot, General Post Office, London, E.C.1," in addition to the full name and address of the consignee.

### End of Reparation Dyes

THE obligation on Germany to supply dyestuffs on reparations account expired on August 15. In the first half of 1928 German deliveries on reparations account of various categories of dyestuffs to Belgium, France and Italy amounted to 16,000 double zentner, valued at 9,000,000 marks, against 9,000 double zentner, valued at 5,000,000 marks, in the corresponding period of 1927. The total exports to these countries (including free deliveries) amounted in the first six months of the present year to 18,000,000 d.z., against 13,000 d.z. in the corresponding period of 1927.

### Hamburg's Potash Port

THE special potash port in Hamburg built by the State of Prussia on the left bank of the River Elbe at Harburg-Wilhelmsburg (Kattwyk-Hobe-Schaar) has been formally turned over to the German Potash Syndicate, after a successful trial operation period of three months. The new port consists of quays having a length of approximately 1,000 ft. equipped with cranes and facilities for storing 100,000 tons of potash salts. The storage facilities should be sufficient for the present requirements, inasmuch as exports of potash salts via Hamburg amounted to 667,000 tons in 1927. In order to avoid caking of the salts the store houses have been equipped with a heating system to keep the air dry.



## Brotherton and Co.'s Half-Century

### Fiftieth Anniversary of Foundation

TO-DAY (Saturday, September 1) Colonel Sir Edward Allen Brotherton celebrates the fiftieth anniversary of his founding of Brotherton and Co., Ltd. The business was founded by Sir Edward in 1878, the first works being an ammonia distillation works at Wakefield. The business prospered under Sir Edward's untiring efforts, and new works—some involving other processes—were erected in other industrial centres until, just prior to the war, the company owned works at Wakefield, Leeds (two), Birmingham, Liverpool, Glasgow, Sunderland, Workington and Middlesbrough, with depôts at Birkenhead, Grimsby and Stockport, and tank installations at Birkenhead, Immingham and Sunderland. The German-built Mersey Colour and Hydrosulphite Works were added in 1917, being purchased from the Board of Trade. During the war, the company erected and successfully operated an oleum plant at Birmingham, a T.N.T. factory at Liverpool, and picric acid factories at Leeds and Wakefield.

### Great Public Activity

Sir Edward Brotherton was Mayor of Wakefield in 1902-1903, and Lord Mayor of Leeds in 1913-1914. He represented Wakefield in the House of Commons in 1902-10 and 1918-1922. He is a Freeman of both Leeds and Wakefield. His philanthropy is well known. Twice in his career he has opened banking accounts for all the school children in Wakefield. At the outbreak of the war, when he was Lord Mayor of Leeds, he raised and equipped the Leeds "Pals" Battalion at his own expense. He gave £5,000 to the Prince of Wales' Fund, and returned to the National Exchequer all the interest on the half-million pounds which he had invested in War Loan. In 1920, he gave £20,000 to found a chair of bacteriology in Leeds University, and more recently the same university has received from him £100,000 for the establishment of a library. For his great public services he was created a baronet in 1918, and in 1923 received the LL.D. degree, *honoris causa*, from the University of Leeds. He possesses one of the finest private libraries in the country.

According to the *Directory of Directors*, Sir Edward Brotherton occupies the following industrial positions among others: vice-president of the American Creosoting Co.; vice-president of the American Tar Products Co.; director of the British Alizarine Co., Ltd.; chairman of Brotherton and Co., Ltd.; chairman of the Cassel Cyanide Co., Ltd., etc. He was formerly a director of the United Alkali Co.

### American Tariff on Tartaric Acid

THE United States Tariff Commission held a preliminary hearing on July 25, in Washington, into the application of the Royal Baking Powder Co., of New York, for increased tariff duties on cream of tartar and tartaric acid. An exchange of briefs took place between interested parties on August 6, and September 17 has been fixed as the date for final briefs. Among the American producers represented in addition to the Royal Baking Powder Co. were the Harshaw, Fuller and Goodwin Co., of Cleveland, the American Cream of Tartar Co., of San Francisco, and Charles Pfizer and Co., of New York. An agent for German and Italian producers and the purchasing agent of the Bristol-Meyers Co. testified against an increase in the tariff.

### Carbide and Carbon Amalgamates with Acheson

THE Union Carbide and Carbon Corporation has concluded an agreement under which it will acquire all the common stock of the Acheson Graphite Corporation in exchange for shares of its own stock. The Acheson company owns a factory at Niagara Falls, with an annual output of about 45,000,000 lbs. of graphite in powdered and electrode form. The business has been in operation for the past thirty years, and was started by Dr. E. G. Acheson. Under the combination, the management and policy of the Acheson Graphite Corporation will continue unchanged in the main, Mr. A. Smith remaining president, and Dr. Acheson continuing as chairman of the board.

## Paint Company's Affairs

### Compulsory Winding Up

UNDER a compulsory winding-up order made on the petition of A. Boake Roberts and Co., Ltd., the statutory meetings of creditors and shareholders of Bartley and Smith, Ltd., paint and varnish manufacturers, of 12, Victoria Street, London, S.W.1, were held on August 24 at the Carey Street offices of the Board of Trade, Lincoln's Inn.

Mr. J. Barwick Thompson, Assistant Official Receiver, reported that the company was registered as a private company on December 7, 1927, and was formed to acquire and develop a secret formula for the manufacture of cellulose paint. The nominal capital was fixed at £3,000, and £2,500 had been issued, of which 2,000 shares were subscribed by the directors for cash and 500 allotted to the vendor as consideration for the acquisition of the secret formulæ for the manufacture of these paints. Mr. William Bennison, the vendor and patentee, was appointed a director and acted as works manager at a salary of £5 a week, with 10 per cent. of the net profits. He was, in fact, paid £10 a week until June 22, 1928, and since then only £5.

The company acquired the Victory Works, Hounslow, for £1,200, installed plant and machinery at a cost of £630 and expended a further £500 on additions to and alterations of the premises. By the end of February, 1928, the company was in a position to commence production and a small quantity of cellulose paint was displayed at the Ideal Homes Exhibition, with the result that a few retail sales were effected, and some orders obtained from the trade. The company, however, came to the conclusion that the results were not satisfactory, and being short of the necessary working capital with which to develop the business the directors borrowed £1,500 from Mr. John Fredk. Field, of Halifax, on the security of 10 per cent. debentures, charged on the whole of the company's property. The bonds were issued on February 17, 1928, and £1,150 of the £1,500 was almost immediately utilised for the purpose of paying off claims of firms in which certain directors of the company were interested.

In May, 1928, Mr. Warlow introduced to the company a Mr. Baggally, who was stated to have considerable experience in the manufacture of lacquer, paints and varnish, and an expert knowledge of dyes. That gentleman was engaged at a weekly salary of £5 to place on the market a new kind of lacquer paint. That was found to be of an excellent quality, but by this time the company had fallen into financial difficulties which culminated in the filing of the petition. On July 16, 1928, the debenture holder appointed Mr. Howard Button, chartered accountant and Mr. Leonard Wilson, chartered accountant, as joint receivers of the property. Those gentlemen entered into possession and had since carried on the business of the company. The accounts filed under the liquidation showed assets valued at £2,846 and subject to the costs and expenses of receivership and liquidation. Assuming that the assets realised the amount placed upon them there would be a balance of over £1,100 available to meet the unsecured claims amounting to between £3,000 and £4,000. The accounts filed under the liquidation showed total liability of £5,393, and a deficiency of £5,047 with regard to contributories.

In the absence of any resolution, the Official Receiver remained in charge of the liquidation.

### Ceramic Society: Refractory Section Meeting

THE REFRACTORY MATERIALS SECTION of the Ceramic Society will hold its autumn meeting on September 13 and 14 in Glasgow. Among the papers to be read are the following: "Refractory Formers for Electrical Heating Elements," by P. Cooper; "Notes on Refractories for Salt Glaze Kilns," by W. Emery; "The Functions of Regenerators in Relation to the Properties of the Refractories of Construction," by A. T. Green; "Jointing Cement," by C. Edwards; "A Comparison of the Properties and Industrial Durability of Lime-Bonded and Clay-Bonded Silica Bricks," by W. J. Rees; "The Dissociation of Carbon Monoxide in Contact with Fireclays and Silica," by W. J. Rees and D. W. Hubbard; "Drying Cracks," by C. E. Moore; and "Aluminous Refractories and their Industrial Significance," by A. J. Dale. The Pottery Section will meet on Monday, October 8. The Building Section will meet at Stoke-on-Trent on October 10 and 11.

## From Week to Week

LORD AND LADY MELCHETT have returned to England from Aix-les-Bains.

AN ISSUE of 50,000 shares was made by the Montecatini company of Milan on Thursday, August 23.

WORK HAS BEEN COMMENCED in connection with the erection of a by-product plant at the Bedwas Colliery, Rhymney Valley.

MR. J. E. G. HARRIS is leaving Scottish Dyes, Ltd., to take up the position of chief research chemist to Morton Sundour Fabrics.

MR. JOHN REID, on account of ill-health, has resigned his position as chief chemist with Lever Brothers, Toronto, and has returned to Scotland.

MALAYAN WOOD DISTILLATION, LTD., of Penang, have obtained a concession for the production of acetic acid. A factory has been erected at Krambit.

THE FOURTH Machine Tool and Engineering Exhibition organised by the Machine Tool Trades' Association will be held at Olympia from September 5-22.

PINCHIN, JOHNSON AND CO., LTD., are stated to have acquired the business of Borthwick Proprietary, Ltd., a leading Australian paint manufacturing concern.

GERMAN CONCERNS interested in products derived from bones have formed an organisation to undertake centralised buying of raw materials, known as the Deutsche Knochen-Industrie G.m.b.H., of Cassel.

DOCTORATE DEGREES in chemistry conferred by universities in the United States in the session 1926-27 numbered 268, this being more than twice as many as those conferred in any other branch of science.

A FRANKLIN MEDAL has been awarded by the Franklin Institute of Philadelphia to Professor W. Nernst, of Berlin, in recognition of his numerous valuable contributions to the advancement of physical and theoretical chemistry.

JOSEPH MACDONALD, aged 34, was knocked down and partially buried by a fall of clay at the Stockton works of Casebourne and Co. (now a part of Imperial Chemical Industries), on Tuesday. He died while being removed to hospital.

THE SOCIETE PROGYL-KUHLMANN has been formed in France with a capital of Frs. 5,000,000 to manufacture and sell miscellaneous chemical products, especially carbon bisulphide. The board includes Donat Agache, president of the Etablissements Kuhlmann.

A PLANT FOR THE PRODUCTION of ammonium sulphate has recently been put into operation at Hayahoshi, Japan, by the Dai Nippon Jinzo Hiryo K.K., of Osaka, employing the Fauser system. It is expected that at the end of the year production will be at the rate of 30,000 tons per annum.

A FIRE BROKE OUT on Monday at the premises of British Glues and Chemicals, Ltd., at Dunlop Place, Bermondsey, London. It was soon extinguished by the firemen. The damage was confined to the laboratory on the first floor, where a quantity of methylated spirits was destroyed and other slight damage done.

THE ECONOMIC MISSION to Australia appointed by the Home Government in conjunction with the Prime Minister of Australia left London on Thursday. The membership of the mission is as follows: Sir Arthur Duckham (chairman), Sir Hugo Hirst, Mr. D. Malcolm, Sir Ernest Clarke, and Messrs. Henderson and N. E. Archer (secretaries).

MR. R. A. THOMAS, M.I.M.M., the principal, in his report on the work of the session just completed at the School of Mining, Camborne, mentions that all of the twenty diploma students who finished their mining course in June have found situations in various parts of the world, either as surveyors, assayers, prospectors, or general assistants to mine managers, at salaries varying from £300-£400 per annum.

BELGIAN PRODUCTION of ammonium sulphate has been increasing during recent years. A new plant was opened at Ostend a few months ago with a productive capacity of 4,500 tons a year. At Selzaete another plant is under construction, with a similar capacity, while a Claude plant with a capacity of 3,000 tons of sulphate per annum has been in operation for two years, near Liège. Production has risen in the last four years from 61,800 metric tons to 81,450 metric tons, and consumption from 44,500 metric tons to 101,600 metric tons.

ARTIFICIAL SILK NEWS.—Confirmation is forthcoming of the report of the purchase by the Dutch Enka Co. of shares valued at 5,000,000 guilders in the Breda Artificial Silk Co., previously held by the International Holding Co.—Shareholders of Rayweavers, Ltd., have been informed that the company is about to make an issue of a subsidiary company called Sunbeam Art Silk, Ltd., which will have a controlling interest in a factory near Nottingham.—French newspapers state that Courtaulds are to participate in an undertaking which is to establish a factory at Leek, Staffordshire, for operating the Gillet artificial silk dyeing and weighting process.

INDIAN INDIGO EXPORTS in June amounted to 27 cwt., as compared with 139 cwt. in June, 1927.

SIR JOHN BRUNNER was on Saturday, August 25, adopted as prospective Liberal candidate for Cheltenham.

AUER VON WELSBACH, the inventor of the Welsbach incandescent gas mantle, is seventy years old to-day, Saturday.

MR. AND MRS. HENRY MOND, who are at present on the Continent, are expected to return to London about September 9.

A LARGE DEPOSIT of ILMENITE, containing 45.9 per cent. of titanium oxide, has been found about 40 miles from Melbourne.

MR. C. ROWLEY has been appointed to the chemical staff of the British Cast Iron Research Association, in succession to Mr. G. Murray, resigned.

A HUNGARIAN OXYGEN-PRODUCING COMPANY has been formed in Buda-Pesth. A factory will be built, which will come into production next spring.

A RESOLUTION for amalgamation with International Bitumen Emulsions, Ltd., was carried unanimously at a meeting of the shareholders of International Colfix, Ltd.

THE SYDNEY CORPORATION ELECTRICITY DEPARTMENT have placed an order for cupro-nickel condenser tubes for their latest extensions with the Yorkshire Copper Works, Ltd., of Leeds.

A LABORATORY for the investigation of the industrial value of marine products is to be erected in Aberdeen by the Fish Industrial Supply and Development Co., of London and Aberdeen. The cost will be £6,000.

RECENT WILLS INCLUDE: Mr. John Henry Blyton, of Kersal, Manchester, proprietor of Blyton, Ashton and Co., manufacturing chemists, £5,985; Mr. John Cary Baker Hendy, lately in charge of a group of collieries owned by Pease and Partners, £7,629.

A HELIUM PRODUCTION PLANT is being erected by the U.S. Government, near Amarillo, Texas. Helium-bearing natural gas is being supplied from a new gas well, recently completed by the Amarillo Oil Co., with an open flow volume of 7,100,000 cubic ft. per day.

SIR ERNEST BENN has written a book entitled *The Return to Laissez Faire*, which will shortly be published by Ernest Benn, Ltd. His earlier work, *The Confessions of a Capitalist*, which has run through very numerous editions since it was originally published, is now available to the public in a sixpenny edition, which is on sale at all stores.

THE I.G. FARBENINDUSTRIE A.G. has purchased a large block of shares of the Caroline lignite works. It is thought that the I.G. intends to place itself gradually in possession of all or the greater part of German lignite resources so as to obtain control of the principal raw material for hydrogenation.

SMALL QUANTITIES of HELIUM have been found in the petroliferous gas coming from the bore of the Roma Oil Corporation, Queensland. The discovery is regarded as scientifically important although the quantities are of little commercial value. Under the Petroleum Act of Queensland all helium recovered belongs to the crown.

AGRICULTURAL AND GENERAL ENGINEERS, LTD., of Aldwych House, Aldwych, London, announce that in order to co-ordinate the Australian interests of their fourteen associated companies they have appointed Mr. A. Simpson, formerly H.M. Trade Commissioner in Sydney, to act as their resident chief representative in Australia. Mr. Simpson's appointment will in no way interfere with any existing agency arrangements.

IMPORTANT business is done at Bristol—both import and export—in connection with zinc concentrates. Nearly 7,000 tons arrived last week at Avonmouth docks from Port Pirie, Australia. The traffic is already large, and it is hoped that it will develop considerably in the future. The works at Avonmouth are of the most up-to-date description, although the quantity of raw material arriving has not yet brought the plant into full operation. Last year eight steamers brought consignments of zinc concentrates to Avonmouth. The concentrates are transported direct from the ship's side in railway trucks to the smelting works, where they undergo treatment yielding sulphuric acid, a large proportion of which is used in the manufacture of superphosphates. After being roasted, some of the concentrates return to the quaysides at Avonmouth for export, and last year 28 steamers loaded full cargoes at the outer docks for continental ports.

### Obituary

DR. RUDOLF WEISZBERGER, a director of the Gesellschaft für Teerverwertung m.b.H., on August 17. He and his son were fatally injured by an avalanche.

DR. E. C. GREY, formerly professor of chemistry in the University of Cairo, recently. He formerly held the appointment of Foulerton research student of the Royal Society. He relinquished his appointment at Cairo in order to carry out some research work for the League of Nations on the food problems of Japan, his work on the subject having just been published at Geneva. Among his publications were nine papers published by the Royal Society, dealing mainly with fermentation.



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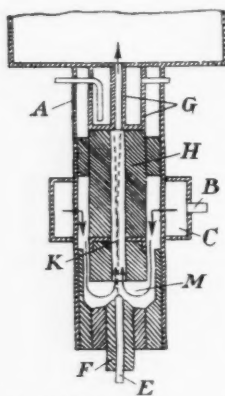
## Patent Literature

The following information is prepared from published Patent Specifications and from the Illustrated Official Journal (Patents) by permission of the Controller to H.M. Stationery Office. Printed copies of full Patent Specifications accepted may be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, at 1s. each.

### Abstracts of Complete Specifications

- 294,494. HYDROCARBONS TREATING WITH ELECTRIC ARCS. J. Y. Johnson. From I.G. Farbenindustrie Akt.-Ges., Frankfurt-on-Main, Germany. Application date, January 24, 1927.

When methane is treated with an electric arc between a central electrode and a tubular electrode through which the gas passes, to obtain unsaturated hydrocarbons such as acetylene, difficulties are experienced in obtaining the proper



294,494

length of the gas current alone, and a short circuit discharge may be obtained. These difficulties are now avoided by using a central electrode insulated up to its end, and arranging a mantle of insulating material between this electrode and the tubular electrode to prevent the arc from taking the shortest path. Insulators such as steatite, quartz, or asbestos may be used, and the central electrode may be protected by an inert atmosphere. Direct current or high frequency (500-150,000) alternating current may be used, and the electrodes may form part of a resonant oscillatory circuit.

In the apparatus illustrated, provision is made for pre-heating the gas. The upper part of the mantle A forms the counter-electrode G, which is provided with a cooler. The gas is introduced at B, and passes through a chamber C to the chamber M. The central electrode E is protected by insulation F, and the arc takes the path shown by dotted lines through the gas in the narrow chamber K to the electrode G. The insulating mantle is shown at H. The process may be carried out in a cyclic manner by separating the products and adding fresh hydrocarbons to the hydrogen. The residual gases obtained in the synthesis of ammonia may be treated by this process to obtain acetylene and hydrocyanic acid. Examples are given of the treatment of various gaseous mixtures, including coke oven gas.

- 294,507. SULPHURO-ANHYDRIDE COMPOUNDS OF TERTIARY BASES. E. G. Beckett, J. E. G. Harris, B. Wylam, J. Thomas, and Scottish Dyes, Ltd., Earl's Road, Grangemouth, Stirling. Application date, February 25, 1927.

The compounds made by condensation between tertiary bases such as pyridine and sulphur trioxide have been made by adding the tertiary base to ground sulphur trioxide in carbon tetrachloride. In this invention, the tertiary base is distilled and the vapour passed into a reaction vessel into which sulphur trioxide vapour obtained by heating oleum is also conducted. The process may be combined with the preparation of sulphur trioxide by the contact method. Other sources of sulphur trioxide may be employed, e.g., chlor-sulphonic acid or an alkyl ester of chlor-sulphonic acid, in equivalent quantity. The gases carrying the sulphuro anhydride compound may be treated in cyclone or electrical separators, and the product is obtained in the form of a loose white powder. An apparatus is described in which condensation before the reaction is prevented by passing the vapour through concentric tubes, the inner of which is steam-heated.

- 294,557. LIQUID AND GASEOUS HYDROCARBONS OF LOW BOILING POINT FROM MINERAL AND OTHER OILS, TAR, ETC., PRODUCTION OF. J. Y. Johnson, London. From I.G. Farbenindustrie Akt.-Ges., Frankfurt-on-Main, Germany. Application date, April 21, 1927.

In the cracking of high boiling hydrocarbons, considerable deposition of carbon is likely to take place, but it has been found that this may be avoided by passing the vapour at high velocity over a heating device arranged transversely to the

flow of the gas. The heating device may be in the form of a grate, wire spiral, or the like, and may be heated electrically. If oxygen or steam is used, inert materials such as chromium-nickel, chromium-nickel-iron, and cobalt alloys are used. Metals which might form carbides cannot be employed at very high temperatures. An example is given of the treatment of American petroleum boiling between 170° and 270° C., the vapour of which is passed over hot pipes heated to 700° C. by the passage of hot gases through them. About 45 per cent. of the oil is converted into benzines, boiling between 70° and 170° C. The gases consist of ethylene, butylene, propylene, ethane, methane, and hydrogen. No carbon deposits are formed.

- 294,672. INTERMEDIATES AND DYESTUFFS, PRODUCTION OF. L. J. Hooley, J. Thomas, and Scottish Dyes, Ltd., Earl's Road, Grangemouth, Stirling. Application date, January 29, 1927.

The starting substances are leuco compounds of anthraquinone, vat dyestuffs derived from anthraquinone, e.g., dibenzanthrone, and their derivatives containing substituents such as hydroxyl, amino, or alkyl-amino groups, and also the leuco compounds of indigoid dyestuffs. The compounds are sulphonated with sulphuric acid or oleum, and in some cases 20 per cent. oleum may be employed at temperatures of 160-200° C., and the sulphonation may be accompanied by simultaneous oxidation, or the sulphonic acid compound of the leuco compound may be isolated. Examples are given of the production of quinizarine sulphonic acid from leuco quinizarine, anthraquinone-1:4-diamino sulphonic acid from leuco 1:4-diaminoanthraquinone, and the sulphonation of leuco 1:4-dimethyl-diaminoanthraquinone, leuco thio-indigo, and leuco dibenzanthrone.

- 294,681. SILICEOUS MATERIALS, TREATMENT OF. P. Spence and Sons, Ltd. T. J. I. Craig and A. Kirkham, Manchester Alum Works, Holland Street, Manchester. Application date, April 28, 1927.

Natural silicates are treated with mineral acids, which dissolve the alumina, iron oxide, alkaline earths, and part of the titanium oxide, if present. The residue is washed and dried, and treated with a hot solution of monocarbonate. This dissolves the silica, and the solution is then treated with carbon dioxide or acid-alkali carbonate. The silica separates in a non-gelatinous form, which is then washed with water and dilute acid. The pure hydrated silica is dried and calcined, and forms a voluminous powder of which 10 grams occupy about 100 c.c. This product is essentially different from silica gel.

- 294,735. CALCIUM AND MAGNESIUM SALTS OF EUGENOL, MANUFACTURE OF. V. H. Kirkham and L. W. Raymond, Department of Agriculture, Zanzibar. Application date, May 24, 1927.

Calcium eugenate is made by treating oil of cloves with slaked lime and evaporating the volatile constituents with hot air or steam, or by washing the powder with methylated spirit. The calcium and magnesium salts are less soluble in water than the alkali salts, and are not hygroscopic. Eugenol can be obtained by treating them with acids.

- 294,743. DYESTUFF CONTAINING CHROMIUM, MANUFACTURE OF. J. Y. Johnson, London. From I.G. Farbenindustrie Akt.-Ges., Frankfurt-on-Main, Germany. Application date, June 10, 1927.

The dyestuff obtained from diazotised metanilic acid and salicylic acid is treated with chromium formate to obtain a dyestuff giving a greenish-yellow shade of good fastness, and suitable for calico printing.

- 294,759. CARBON FROM CARBON MONOXIDE, MANUFACTURE OF. The Cassel Cyanide Co., Ltd., and T. Ewen, 19, St. Vincent Place, Glasgow. Application date, July 5, 1927, and April 13, 1928.

In the production of carbon from carbon monoxide in the presence of catalysts obtained by treating finely divided iron, nickel, or cobalt, or their oxides with carbon monoxide, the

catalyst has usually been employed in finely divided condition. In this invention, the catalyst is employed in "massive" form, *e.g.*, a sheet of iron or mild steel, and the deposited carbon is detached from it by mechanical means. Mild steel must be activated by dipping in fused sodium cyanide, washing, reducing in carbon monoxide or hydrogen, and heating in carbon monoxide to 500°-700° C. The production of carbon is accelerated if the gas contains a small proportion of iron carbonyl. The process can then be conducted at a lower temperature and the carbon obtained is more finely divided. Details are given of the production of carbon.

294,787. ETHYLENE, PROCESS FOR THE PRODUCTION OF. J. Y. Johnson, London. From I.G. Farbenindustrie Akt.-Ges., Frankfurt-on-Main, Germany. Application date, August 27, 1927.

It is known that ethylene can be obtained by the catalytic hydrogenation of acetylene employing palladium as a catalyst, but the efficiency of the catalyst is soon reduced. This may be avoided by suspending the catalyst on a carrier such as kieselguhr in an inert liquid such as deca- or tetra-hydronaphthalene, and passing the gaseous mixture at a temperature above 100° C in a finely divided condition through the liquid. A yield of 90 per cent. ethylene can be obtained.

NOTE.—Abstracts of the following specifications which are now accepted, appeared in THE CHEMICAL AGE when they became open to inspection under the International Convention:—270,293 (I.G. Farbenindustrie Akt.-Ges.) relating to insoluble colouring materials in finely divided state, see Vol. XVII, p. 39; 270,339 (Soc. of Chemical Industry in Basle), relating to derivatives of substituted quinoline carboxylic acids, see Vol. XVII, p. 39; 271,037 (Kunstharzfabrik Dr. Fritz Pollak Ges.) relating to condensation products of urea or its derivatives and formaldehyde, see Vol. XVII, p. 86; 275,662 (I.G. Farbenindustrie Akt.-Ges.) relating to destructive hydrogenation of carbonaceous materials, see Vol. XVII, p. 352; 276,659 (H. Petersen) relating to sulphuric acid, see Vol. XVII, p. 399; 282,001 (Newport Co.) relating to para-amino-orthobenzoyl-benzoic acid, see Vol. XVIII, p. 150; 289,823 (Soc. l'Air Liquide, Soc. Anon. pour l'Etude et l'Exploitation des Procédés G. Claude) relating to exothermic chemical reactions, see Vol. XIX, p. 11.

#### International Specifications not yet Accepted

292,904. DYES. Newport Co., Carrollville, Wis., U.S.A. (Assignees of I. Gubelmann, 1202, Fairview Avenue, South Milwaukee, J. B. Oesch, 410, Lake Avenue, South Milwaukee, and E. Havas, 1803, Wisconsin Avenue, Milwaukee, Wis., U.S.A.) International Convention date, June 25, 1927.

4:4'-Dimethyl-6:6'-dichlor-thioindigo is dissolved in sulphuric monohydrate, and bromine added at ordinary temperature. The dyestuff may contain up to 2 atoms of bromine, depending on the proportion employed. Yellowish-red to bluish-red shades are obtained.

292,912. SYNTHETIC RESINOUS COMPOSITIONS. Scovill Manufacturing Co., Waterbury, Conn., U.S.A. (Assignees of R. W. Belfit, Watertown, Conn., U.S.A.) International Convention date June 25, 1927.

Condensation products of urea, thiourea, etc., and formaldehyde are treated with an agent which increases chemical resistivity such as salicylic acid dissolved in a mixture of a low boiling solvent such as ethyl alcohol, a medium boiling solvent such as butyl alcohol, and a high boiling solvent such as ethyl lactate. A number of alternatives are described, and the application to the production of lacquers etc.

292,932-3. REFINING OILS. F. Hofmann, 15, Novastrasse, Breslau, and W. Stegemann, 79, Kaiserstrasse, Breslau, Germany. International Convention date, June 25, 1927.

292,932. Petroleum is treated with gaseous or liquid hydrofluoric acid, with or without metal halides, and at increased temperature or pressure.

292,933. The above treatment is applied to oils obtained from coal, *e.g.*, crude benzene is treated with 3 per cent. hydrofluoric acid.

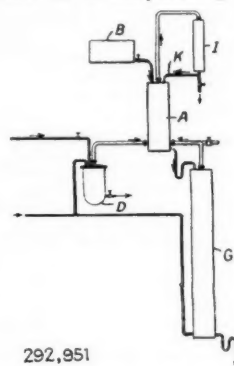
292,950. 1-OXY-2-OXYETHYLAMINO-BENZENES. I.G. Farbenindustrie Akt.-Ges., Frankfurt-on-Main, Germany. International Convention date, June 27, 1927. Addition to 280,873.

2-Amino-1-oxybenzene is condensed with a halogen-hydrin of glycol in the presence of an acid-binding agent such as calcium carbonate at ordinary pressure. Examples are

given of the production of 2-mono- and di-oxyethylamino-1-oxybenzene. The bases may be dissolved in acetone and treated with caustic soda and sulphuric acid to obtain the sodium compound of 2-dioxyethylamino-1-oxybenzene or 2-mono-oxyethylamino-1-oxybenzene sulphate.

292,951. CONCENTRATING NITRIC ACID. E. I. Du Pont de Nemours and Co., Wilmington, Del., U.S.A. (Assignees of F. C. Zeisberg, Weldin Road, Wilmington, Del., U.S.A.) International Convention date, June 27, 1927.

Dilute nitric acid is boiled in a vessel D and the vapour passed into the foot of a dehydrating tower A. Strong



292,951 sulphuric acid is run in at the top from a vessel B, and strong nitric acid is condensed in a reflux I, part of the acid returning to the tower A. The sulphuric acid is de-nitrated in a tower G.

292,964. TREATING RUBBER LATEX. Soc. Italiana Pirelli, 21, Via Fabio Filzi, Milan, Italy. International Convention date, June 27, 1927.

Latex is made coagulable by heat for the direct production of rubber articles by adding oxides or hydrates of zinc, magnesium, aluminium, calcium, and ammonium sulphate.

292,965. COLLOIDAL DISPERSIONS. P. G. M. A. Pigache, 9, Rue Gossec, Paris. International Convention date, June 27, 1927.

Solid substances such as pigments, catalysts, medicaments, graphite, are obtained in a very finely divided state by trituration in presence of hydrosol colloids dispersed in an aqueous medium. Gelatine, hydrocellulose, oxycellulose, gum, isinglass, albumen, fibrine, agar agar, gelosols, and albuminoids may be employed as colloids. Powdered silica may be added to assist the trituration, and other substances not affecting the colloid may also be added. An example is given of the treatment of graphite for addition to lubricating oil.

292,991. POTASSIUM MANGANATE. Soc. Chimique des Usines du Rhône, 21, Rue Jean-Goujon, Paris. International Convention date, June 29, 1927.

Natural or artificial manganese dioxide is suspended in an excess of aqueous melted potash, containing 60-85 per cent. of potassium hydroxide, heated to 160°-200° C., and oxygen is blown through the mixture. The excess of alkali may be removed by treating the product with a limited amount of water or dilute alkaline lye. Potassium manganate is obtained.

292,995. AMMONIUM SULPHATE. Soc. Anon. des Fours à Coké Semet-Solvay et Piette, 100, Avenue de la Toison d'Or, Brussels. International Convention date, June 29, 1927. Addition to 262,320.

Specification 262,320 (See THE CHEMICAL AGE, Vol. XVI, p. 49) describes a process for washing distillation gases with aqueous ammonia, and obtaining ammonium sulphate from the liquor. This is now applied to combustion gases, *e.g.*, from a Cowper stove, after cooling to 25° C.

293,001. HYDROGENATION OF PHENOL-KETONE CONDENSATION PRODUCTS. Schering-Kahlbaum Akt.-Ges., 170, Müllerstrasse, Berlin. International Convention date, June 29, 1927. Addition to 280,956. (See THE CHEMICAL AGE, Vol. xviii, p. 85.)

Etheric condensation products of alkylated phenols and ketones are hydrogenated under special conditions to obtain phenols and their hydrogenation products. Thus, dimethylcoumarane is hydrogenated at 235°-250° C. in the presence of carbonates of nickel, cobalt, and copper, to obtain thymol menthol, or their isomers; the condensation product of  $\alpha$ -naphthol and acetone is hydrogenated in the presence of a



nickel catalyst at 280°-320° C. to obtain isopropyl-naphthol, naphthol, isopropyl-naphthalene, and naphthalene.

#### LATEST NOTIFICATIONS.

- 295,680. Process for the manufacture of hormones. I.G. Farbenindustrie Akt.-Ges. August 17, 1927.  
 295,629. Manufacture of preparations having a tuberculin action. I.G. Farbenindustrie Akt.-Ges. August 15, 1927.  
 295,716. Leuco-compounds of vat dyes. Du Pont de Nemours and Co., E.I. August 19, 1927.  
 295,650. Process for the manufacture of difficulty-soluble salts of organic bases and alkaloids. I.G. Farbenindustrie Akt.-Ges. August 16, 1927.  
 295,641. Production of concentrated acetic acid. Suida, Dr. H. August 15, 1927.  
 295,694. Manufacture of hydroxythio-naphthenes. I.G. Farbenindustrie Akt.-Ges. August 17, 1927.  
 295,728. Process for the purification of hydrocarbon oils. Standard Oil Development Co. August 19, 1927.  
 295,939. Photographic developers. I.G. Farbenindustrie Akt.-Ges. August 18, 1927.  
 295,940. Manufacture of plastic masses from cellulose ethers. I.G. Farbenindustrie Akt.-Ges. August 19, 1927.  
 295,941. Colouring of spirit varnishes. I.G. Farbenindustrie Akt.-Ges. August 19, 1927.  
 295,942. Manufacture of materials from cellulose ethers and esters. I.G. Farbenindustrie Akt.-Ges. August 19, 1927.  
 295,943. Manufacture of compounds of the anthracene series. I.G. Farbenindustrie Akt.-Ges. August 18, 1927.  
 295,944. Manufacture of dyestuffs. Soc. of Chemical Industry in Basle. August 19, 1927.  
 295,945. Distillation of tar, oil, and other materials. International Combustion Engineering Corporation. September 21, 1926.  
 295,946. Distillation. International Combustion Engineering Corporation. September 21, 1926.  
 295,947. Manufacture and production of liquid and other hydrocarbons and derivatives thereof by the destructive hydrogenation of carbonaceous materials. I.G. Farbenindustrie Akt.-Ges. August 7, 1926.  
 295,948. Manufacture and production of liquid and other hydrocarbons and derivatives thereof by the destructive hydrogenation of carbonaceous materials. I.G. Farbenindustrie Akt.-Ges. August 7, 1926.  
 295,949. Manufacture and production of liquid and other hydrocarbons and derivatives thereof by the destructive hydrogenation of carbonaceous materials. I.G. Farbenindustrie Akt.-Ges. August 7, 1926.

#### Specifications Accepted with Date of Application

- 267,155. Unsaturated hydrocarbons. Manufacture of. I.G. Farbenindustrie Akt.-Ges., March 8, 1926.  
 271,869. Alkali salts. Separation of. E. Weitz. May 20, 1927.  
 273,250. Conversion of heavier hydrocarbons into lighter hydrocarbons. R. Cross. June 28, 1926.  
 273,665. Naphthalene and naphthalene derivatives. Process for the manufacture of condensation products from. I.G. Farbenindustrie Akt.-Ges. June 30, 1926. Addition to 295,601.  
 274,492. Synthesis of alcohols. Compagnie de Bethune. July 17, 1926.  
 282,379. Hydrocyanic acid. Production of. A. R. Frank and N. Caro. December 17, 1926.  
 285,847. Sulphuric acid. Manufacture of. Soc. Générale Metallurgique de Hoboken. February 23, 1927.  
 286,284. Catalysts of high mechanical strength. I.G. Farbenindustrie Akt.-Ges. March 3, 1927.  
 294,625. Trinitrotoluene. Production of. Akt.-Ges. Lignose. July 29, 1927.  
 295,137. Hydrogen peroxide and other liquids readily giving off active oxygen. J. Y. Johnson. (I. G. Farbenindustrie.) Feb. 16, 1927.  
 295,213. Benzanthrone dyestuffs. Production of. I. B. Anderson, R. F. Thomson, J. Thomas, and Scottish Dyes, Ltd. February 2, 1927.  
 295,224. Ores, residues, and like materials for extracting metal values. Treatment of. S. C. Smith. April 5, 1927.  
 295,226. Metalliferous ores, natural sulphides, arsenides, mattes, hardheads, and other metallurgical products which may have been made into forms with a binder. Treatment of. F. L. Wilder, E. Morris, E. Schiff, and E. S. King. April 6, 1927.  
 295,227. Aluminium oxides and other aluminium compounds. Production of. T. R. Haglund. May 2, 1927.  
 295,237. Azo dyestuffs. Manufacture of. K. Carpmal and K. S. Carpmal. (I.G. Farbenindustrie Akt.-Ges.). May 4, 1927.  
 295,238. Concentration of acetic acid solution. K. Carpmal and K. S. Carpmal. (I.G. Farbenindustrie Akt.-Ges.). May 4, 1927.  
 295,239. Vat dyestuffs. Manufacture of. K. Carpmal and K. S. Carpmal. (I.G. Farbenindustrie Akt.-Ges.). May 4, 1927.  
 295,253. Gasoline and similar petroleum products. Treatment of. A. G. Bloxam. (Allgemeine Ges. für Chemische Industrie Akt.-Ges.). May 7, 1927.

- 295,295. Thiazolic series. Manufacture of compounds of. K. Carpmal and K. S. Carpmal. (I.G. Farbenindustrie Akt.-Ges.) March 30, 1927.  
 295,338. Metallic ores or other metallic products. Process and apparatus for the treatment of. T. Rowlands. February 10, 1927.  
 295,417. Electro magnetic separation of Ores. Apparatus for. A. Davies. May 5, 1927.  
 295,442. Condensation products from dihydroxydiphenyl-ethane, and process of making the same. E. C. R. Marks. May 13, 1927.  
 295,443. Magnetic alloys. W. S. Smith, H. J. Garnett, and J. A. Holden. May 13, 1927.  
 295,477. High grade fertilizers. Manufacture and production of. J. Y. Johnson. (I.G. Farbenindustrie Akt.-Ges.). June 25, 1927.  
 295,504. Gases and vapours. Apparatus for the separation and recovery of—by absorbent solids. A. Godel. July 25, 1927. Addition to 267,369.  
 295,506. Grey to black vat dyestuffs. Production of. L. B. Holliday and Co., Ltd., and C. Shaw. July 28, 1927.

#### Applications for Patents

- Brightman, R., British Dyestuffs Corporation, Ltd. Azo dyes, etc. 24,087. August 21.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Manufacture of dyestuffs. 24,093. August 21.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Manufacture of amino substituted quinoline compounds. 24,094. August 21.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Manufacture of phenylcarboxylic acid compounds. 24,095. August 21.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Manufacture of ceramic products. 24,096. August 21.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Manufacture of compounds of diphenolisatins. 24,188. August 22.  
 Carpmal, A. and I.G. Farbenindustrie Akt.-Ges. Purification of industrial gases. 24,305. August 23.  
 Coley, H. E. Manufacture of gas. 24,414. August 24.  
 Gluscho, A. and Schroeter, G. Manufacture of alicyclic lactones of hydrogenated aromatic polycyclic series of hydrocarbons. 24,289. August 23.  
 Horsley, G. F. and Imperial Chemical Industries, Ltd. Hydrogenation of crotonaldehyde. 24,128. August 22.  
 I.G. Farbenindustrie Akt.-Ges. and Imray, O. Y. Coating surfaces with cellulose varnishes. 23,910. August 20.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Apparatus for carrying out photochemical reactions. 23,925. August 20.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of halogen substitution products of dibenzanthrone series. 24,042. August 21.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of autolyzed yeast. 24,280. August 23.  
 I.G. Farbenindustrie Akt.-Ges. and Imray, O. Y. Protection of metal surfaces against corrosion. 24,288. August 23.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of organic compounds containing oxygen. 24,400. August 24.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of organic bases. 24,508. August 25.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of valuable mono-substitution products of anthanthrone series. 24,509. August 25.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Production of photochemical products. 24,510. August 25.  
 I.G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Purification of gases. 24,511. August 25.  
 I.G. Farbenindustrie Akt.-Ges. Photographic developers. 23,905. August 20. (Germany, August 18, 1927.)  
 I.G. Farbenindustrie Akt.-Ges. Preparing surfaces for reception of cellulose lacquers. 23,906. August 20.  
 I.G. Farbenindustrie Akt.-Ges. Manufacture of plastic masses from cellulose ethers. 23,907. August 20. (Germany, August 19, 1927.)  
 I.G. Farbenindustrie Akt.-Ges. Production of non-knocking engine fuels. 24,174. August 22. (Germany, September 10, 1927.)  
 I.G. Farbenindustrie Akt.-Ges. Device for regulating composition, etc. of gas mixture. 24,292. August 23. (Germany, August 24, 1927.)  
 Imperial Chemical Industries, Ltd. Process for lead coating, etc. 24,360. August 24.  
 Nicoresti, J. Cofman-. Colloidal iodine preparations. 24,436. August 24.  
 Piccardo, C. Filtration apparatus. 24,179. August 22. (Germany, February 13.)  
 Schneller, E. Dyeing. 24,290. August 23. (France, March 10.)  
 Schneller, E. Dyeing. 24,291. August 23. (France, March 12.)  
 Soc. of Chemical Industry in Basle. Manufacture of dyes. 23,912. August 20. (Switzerland, August 19, 1927.)  
 Soc. of Chemical Industry in Basle. Manufacture of amino-alkylarylcarbinols, etc. 24,165. August 2. (Germany, August 22, 1927.)

## Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at makers' works.

### General Heavy Chemicals

ACID ACETIC, 40% TECH.—£19 per ton.  
 ACID BORIC, COMMERCIAL.—Crystal, £30 per ton; powder, £32 per ton; extra fine powder, £34 per ton.  
 ACID HYDROCHLORIC.—3s. 9d. to 6s. per carboy d/d, according to purity, strength, and locality.  
 ACID NITRIC, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.  
 ACID SULPHURIC.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations; 140° Tw., Crude Acid, 60s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.  
 AMMONIA ALKALI.—£6 15s. per ton f.o.r. Special terms for contracts.  
 BISULPHITE OF LIME.—£7 10s. per ton, f.o.r. London, packages extra.  
 BLEACHING POWDER.—Spot, £9 10s. per ton d/d; Contract, £8 10s. per ton d/d, 4-ton lots.  
 BORAX, COMMERCIAL.—Crystals, £19 10s. to £20 per ton; granulated, £19 per ton; powder, £21 per ton. (Packed in 2-cwt. bags carriage paid any station in Great Britain.)  
 CALCIUM CHLORIDE (SOLID).—£5 to £5 5s. per ton d/d carr. paid.  
 COPPER SULPHATE.—£25 to £25 10s. per ton.  
 METHYLATED SPIRIT 61 O.P.—Industrial, 1s. 3d. to 1s. 8d. per gall. pyridinised industrial, 1s. 5d. to 1s. 10d. per gall.; mineralised, 2s. 4d. to 2s. 8d. per gall.; 64 O.P., 1d. extra in all cases.  
 NICKEL SULPHATE.—£38 per ton d/d.  
 NICKEL AMMONIA SULPHATE.—£38 per ton d/d.  
 POTASH CAUSTIC.—£30 to £33 per ton.  
 POTASSIUM BICHROMATE.—4½d. per lb.  
 POTASSIUM CHLORATE.—3½d. per lb., ex wharf, London, in cwt. kegs, SALAMMONIAC.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton, carr. paid.  
 SALT CAKE.—£3 15s. to £4 per ton d/d. In bulk.  
 SODA CAUSTIC, SOLID.—Spot lots delivered, £15 2s. 6d. to £18 per ton, according to strength; 20s. less for contracts.  
 SODA CRYSTALS.—£5 to £5 5s. per ton, ex railway depots or ports.  
 SODIUM ACETATE 97/98%.—£21 per ton.  
 SODIUM BICARBONATE.—£10 10s. per ton, carr. paid.  
 SODIUM BICHROMATE.—3½d. per lb.  
 SODIUM BISULPHITE POWDER, 60/62%.—£17 10s. per ton delivered for home market, 1-cwt. drums included; £15 10s. f.o.r. London.  
 SODIUM CHLORATE.—2½d. per lb.  
 SODIUM NITRITE, 100% BASIS.—£27 per ton d/d.  
 SODIUM PHOSPHATE.—£14 per ton, f.o.b. London, casks free.  
 SODIUM SULPHATE (GLAUBER SALTS).—£3 12s. 6d. per ton.  
 SODIUM SULPHIDE CONC. SOLID, 60/65.—£13 5s. per ton d/d. Contract, £13. Carr. paid.  
 SODIUM SULPHIDE CRYSTALS.—Spot, £8 12s. 6d. per ton d/d. Contract, £8 10s. Carr. paid.  
 SODIUM SULPHITE, PEA CRYSTALS.—£14 per ton f.o.b. London, 1-cwt. kegs included.

### Coal Tar Products

ACID CARBOLIC CRYSTALS.—6½d. to 6¾d. per lb. Crude 60's, 2s. 2d. to 2s. 2½d. per gall. prompt.  
 ACID CRESYLIC 99/100.—2s. 7d. to 3s. per gall. 97/99.—2s. 6d. to 2s. 7d. per gall. Pale, 95%. 2s. 4d. to 2s. 5d. per gall. Dark, 2s. 1d. to 2s. 2d.  
 ANTHRACENE.—A quality, 2½d. per unit. 40%, £5 per ton.  
 ANTHRACENE OIL, STRAINED.—8d. to 8½d. per gall. Unstrained, 7½d. to 8d. per gall.  
 BENZOLE.—Prices at works: Crude, 10½d. to 11d. per gall.; Standard Motor, 1s. 4½d. to 1s. 5d. per gall.; 90%, 1s. 7d. to 1s. 8d. per gall.; Pure, 1s. 10d. to 1s. 11d. per gall.  
 TOLUOLE.—90%, 1s. 6d. to 1s. 11d. per gall. Firm. Pure, 1s. 10d. to 2s. 1d. per gall.  
 XYLOL.—1s. 3d. to 1s. 11d. per gall. Pure, 1s. 6d. to 1s. 7d. per gall.  
 CREOSOTE.—Cresylic, 20/24%, 9d. per gall.; middle oil, 6½d. to 7½d. per gall. Heavy, 7d. to 8½d. per gall. Standard specification, 6½d. to 6¾d. ex works. Salty, 7½d. per gall.  
 NAPHTHA.—Crude, 8½d. to 9d. per gall. Solvent 90/160, 1s. 1½d. to 1s. 2½d. per gall. Solvent 95/160, 1s. 2d. to 1s. 7d. per gall. Solvent 90/190, 11d. to 1s. 4d. per gall.  
 NAPHTHALENE CRUDE.—Drained Creosote Salts, £5 per ton. Whizzed, £8 per ton. Hot pressed, £8 10s. to £9 per ton.  
 NAPHTHALENE.—Crystals, £13 to £14 10s. per ton. Quiet. Flaked, £14 to £15 per ton, according to districts.  
 PITCH.—Medium soft, 47s. 6d. to 50s. per ton, f.o.b., according to district. Nominal.  
 PYRIDINE.—90/140, 5s. to 6s. per gall. 90/180, 3s. to 4s. per gall. Heavy, 2s. 6d. to 3s. per gall.

### Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated:  
 ACID AMIDONAPHTHOL DISULPHO (1-8-2-4).—10s. 9d. per lb.  
 ACID ANTHRANILIC.—6s. per lb. 100%.  
 ACID BENZOIC.—1s. 8½d. per lb.  
 ACID GAMMA.—4s. 6d. per lb.  
 ACID H.—3s. per lb.  
 ACID NAPHTHIONIC.—1s. 6d. per lb.  
 ACID NEVILLE AND WINTHER.—4s. 9d. per lb.  
 ACID SULPHANILIC.—8½d. per lb.  
 ANILINE OIL.—8d. per lb. naked at works.  
 ANILINE SALTS.—8d. per lb. naked at works.  
 BENZALDEHYDE.—2s. 3d. per lb.  
 BENZIDINE BASE.—3s. 3d. per lb. 100% basis d/d.  
 BENZOIC ACID.—1s. 8½d. per lb.  
 o-CRESOL 29/31° C.—5½d. per lb.  
 m-CRESOL 98/100%.—2s. 3d. to 2s. 6d. per lb.  
 p-CRESOL 32/34° C.—2s. 3d. to 2s. 6d. per lb.  
 DICHLORANILINE.—2s. per lb.  
 DIMETHYLANILINE.—1s. 11d. per lb.  
 DINITROBENZENE.—8½d. per lb. naked at works. £75 per ton.  
 DINITROCHLOROBENZENE.—£84 per ton d/d.  
 DINITROTOLUENE.—48/50° C. 8d. per lb. naked at works. 66/68° C. 9d. per lb. naked at works.  
 DIPHENYLAMINE.—2s. 10d. per lb. d/d.  
 a-NAPHTHOL.—2s. per lb. d/d.  
 B-NAPHTHOL.—10d. per lb. d/d.  
 a-NAPHTHYLAMINE.—1s. 3d. per lb.  
 B-NAPHTHYLAMINE.—3s. per lb.  
 o-NITRANILINE.—5s. 9d. per lb.  
 m-NITRANILINE.—3s. per lb. d/d.  
 p-NITRANILINE.—1s. 8d. per lb.  
 NITROBENZENE.—6d. per lb. naked at works.  
 NITRONAPHTHALENE.—1s. 3d. per lb.  
 R. SALT.—2s. 2d. per lb.  
 SODIUM NAPHTHIONATE.—1s. 8½d. per lb. 100% basis d/d.  
 o-TOLUIDINE.—8d. per lb.  
 p-TOLUIDINE.—1s. 10d. per lb. naked at works.  
 m-XYLIDINE ACETATE.—2s. 6d. per lb. 100%.  
 N. W. ACID.—4s. 9d. per lb. 100%.

### Wood Distillation Products

ACETATE OF LIME.—Brown, £10 5s. per ton. Good demand.  
 Grey, £14 10s. to £15 per ton. Liquor, 9d. per gall.  
 CHARCOAL.—£6 to £9 per ton, according to grade and locality. Foreign competition severe.  
 IRON LIQUOR.—1s. 3d. per gall, 32° Tw. 1s. per gall, 24° Tw.  
 RED LIQUOR.—9d. to 10d. per gall.  
 WOOD CREOSOTE.—1s. 9d. per gall. Unrefined.  
 WOOD NAPHTHA, MISCIBLE.—3s. 11d. to 4s. 3d. per gall. Solvent, 4s. 3d. per gall.  
 WOOD TAR.—£4 to £5 per ton.  
 BROWN SUGAR OF LEAD.—£40 15s. per ton.

### Rubber Chemicals

ANTIMONY SULPHIDE.—Golden, 6½d. to 1s. 3d. per lb., according to quality; Crimson, 1s. 4d. to 1s. 6d. per lb., according to quality.  
 ARSENIC SULPHIDE, YELLOW.—1s. 9d. per lb.  
 BARYTES.—£3 10s. to £6 15s. per ton, according to quality.  
 CADMIUM SULPHIDE.—3s. 9d. to 4s. 6d. per lb.  
 CARBON BISULPHIDE.—£25 to £27 10s. per ton, according to quantity.  
 CARBON BLACK.—5½d. per lb., ex wharf.  
 CARBON TETRACHLORIDE.—£45 to £55 per ton, according to quantity. drums extra.  
 CHROMIUM OXIDE, GREEN.—1s. 2d. per lb.  
 DIPHENYLGUANIDINE.—3s. 9d. per lb.  
 INDIARUBBER SUBSTITUTES, WHITE AND DARK.—5d. to 6½d. per lb.  
 LAMP BLACK.—£35 per ton, barrels free.  
 LEAD HYPOSULPHITE.—9d. per lb.  
 LITHOPHON, 30%.—£22 10s. per ton.  
 MINERAL RUBBER "RUBPRON".—£13 12s. 6d. per ton, f.o.r. London.  
 SULPHUR.—£9 to £11 per ton, according to quality.  
 SULPHUR CHLORIDE.—4d. to 7d. per lb., carboys extra.  
 SULPHUR PRECIP. B.P.—£47 10s. to £55 per ton.  
 THIOCARBAMIDE.—2s. 6d. to 2s. 9d. per lb., carriage paid.  
 THIOCARBANILIDE.—2s. 1d. to 2s. 3d. per lb.  
 VERMILION, PALE OR DEEP.—6s. 2d. to 6s. 4d. per lb.  
 ZINC SULPHUR.—1s. per lb.

### Pharmaceutical and Photographic Chemicals

ACID, ACETIC, PURE, 80%.—£39 per ton ex wharf London in glass containers.  
 ACID, ACETYL SALICYLIC.—2s. 8d. per lb.  
 ACID, BENZOIC, B.P.—2s. to 3s. 3d. per lb., according to quantity. Solely ex Gum, 1s. 4d. per oz., according to quantity.

ACID, BORIC B.P.—Crystal, 36s. to 39s. per cwt.; powder, 40s. to 43s. per cwt.; extra fine powder, 42s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.

ACID, CAMPHORIC.—19s. to 21s. per lb.

ACID, CITRIC.—2s. to 2s. 3d. per lb. Less 5%.

ACID, GALLIC.—2s. 8d. per lb. for pure crystal, in cwt. lots.

ACID, PYROGALLIC, CRYSTALS.—7s. 3d. per lb. Resublimed, 8s. 3d. per lb.

ACID, SALICYLIC, B.P. PULV.—1s. 6d. per lb. Technical.—10½d. to 11½d. per lb.

ACID, TANNIC B.P.—2s. 8d. to 2s. 10d. per lb.

ACID, TARTARIC.—1s. 4½d. per lb., less 5%.

ACETANILIDE.—1s. 5d. to 1s. 8d. per lb. for quantities.

AMIDOL.—7s. 6d. to 9s. per lb., d/d.

AMIDOPYRIN.—7s. 9d. to 8s. per lb.

AMMONIUM BENZOATE.—3s. 3d. to 3s. 6d. per lb., according to quantity. 18s. per lb. ex Gum.

AMMONIUM CARBONATE B.P.—£37 per ton. Powder, £39 per ton in 5 cwt. casks. Resublimed, 1s. per lb.

ATROPINE SULPHATE.—9s. per oz.

BARBITONE.—5s. 9d. to 6s. per lb.

BENZONAPHTHOL.—3s. to 3s. 3d. per lb. spot.

BISMUTH CARBONATE.—9s. 9d. per lb.

BISMUTH CITRATE.—9s. 3d. per lb.

BISMUTH SALICYLATE.—8s. 9d. per lb.

BISMUTH SUBNITRATE.—8s. 3d. per lb.

BISMUTH NITRATE.—Cryst. 5s. 9d. per lb.

BISMUTH OXIDE.—12s. 3d. per lb.

BISMUTH SUBCHLORIDE.—10s. 9d. per lb.

BISMUTH SUBGALLATE.—7s. 9d. per lb. Extra and reduced prices for smaller and larger quantities of all bismuth salts respectively.

BISMUTH ET AMMON LIQUOR.—Cit. B.P. in W. Qts. 1s. 0½d. per lb.; 12 W. Qts. 11½d. per lb.; 36 W. Qts. 11d. per lb.

BORAX B.P.—Crystal, 24s. to 27s. per cwt.; powder, 25s. to 28s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.

BROMIDES.—Ammonium, 2s. 1d. per lb.; potassium, 1s. 10d. per lb.; sodium, 2s. per lb.; granulated, ½d. per lb. less; all spot. Large quantities at lower rates.

CALCIUM LACTATE.—B.P., 1s. 2d. to 1s. 4d. per lb.

CAMPHOR.—Refined flowers, 2s. 11d. to 3s. per lb., according to quantity; also special contract prices.

CHLORAL HYDRATE.—3s. 2d. to 3s. 4d. per lb.

CHLOROFORM.—2s. 4½d. to 2s. 7½d. per lb., according to quantity.

CREOSOTE CARBONATE.—6s. per lb.

ETHERS.—S.G. 730—11d. to 1s. 0d. per lb., according to quantity; other gravities at proportionate prices.

FORMALDEHYDE, 40%.—37s. per cwt., in barrels ex wharf.

GUAIACOL CARBONATE.—4s. 6d. to 4s. 9d. per lb.

HEXAMINE.—1s. 11d. to 2s. 2d. per lb.

HOMATROPINE HYDROBROMIDE.—30s. per oz.

HYDRASTINE HYDROCHLORIDE.—English make offered at 120s. per oz.

HYDROGEN PEROXIDE (12 VOLS.).—1s. 4d. per gallon, f.o.r. makers' works, naked. Winchester, 2s. 11d. per gall. B.P., 10 vols., 2s. to 2s. 3d. per gall.; 20 vols., 4s. per gall.

HYDROQUINONE.—3s. 9d. to 4s. per lb., in cwt. lots.

HYPOPHOSPHITES.—Calcium, 3s. 6d. per lb., for 28 lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.

IRON AMMONIUM CITRATE.—B.P., 2s. 8d. to 3s. per lb. Green, 3s. 1d. to 3s. 4d. per lb.; U.S.P., 2s. 9d. to 3s. per lb.

IRON PERCHLORIDE.—18s. to 20s. per cwt., according to quantity.

IRON QUININE CITRATE.—B.P., 8½d. to 9½d. per oz.

MAGNESIUM CARBONATE.—Light commercial, £31 per ton net.

MAGNESIUM OXIDE.—Light commercial, £62 10s. per ton, less 2½%; Heavy commercial, £21 per ton, less 2½%; in quantity lower; Heavy Pure, 2s. per lb., in 1 cwt. lots.

MENTHOL.—A.B.R. recrystallised B.P., 21s. per lb. net for January delivery; Synthetic, 10s. per lb.; Synthetic detached crystals, 10s. to 12s. 6d. per lb., according to quantity; Liquid (95%), 9s. 6d. per lb.

MERCURIALS B.P.—Up to 1 cwt. lots, Red Oxide, 7s. 10d. to 7s. 11d. per lb., levig., 7s. 4d. to 7s. 5d. per lb.; Corrosive Sublimate, Lump, 6s. 1d. to 6s. 2d. per lb., Powder, 5s. 0d. to 5s. 7d. per lb.; White Precipitate, Lump, 6s. 3d. to 6s. 4d. per lb., Powder, 6s. 4d. to 6s. 5d. per lb., Extra Fine, 6s. 5d. to 6s. 6d. per lb.; Calomel, 6s. 8d. to 6s. 9d. per lb.; Yellow Oxide, 7s. 2d. to 7s. 3d. per lb.; Persulph., B.P.C., 6s. 5d. to 6s. 6d. per lb.; Sulph. nig., 6s. 2d. to 6s. 3d. per lb. Special prices for larger quantities.

METHYL SALICYLATE.—1s. 3d. to 1s. 6d. per lb.

METHYL SULPHONAL.—8s. 9d. to 9s. per lb.

METOL.—9s. to 11s. 6d. per lb. British make.

PARA-FORMALDEHYDE.—1s. 9d. per lb. for 100% powder.

PARALDEHYDE.—1s. 1d. to 1s. 4d. per lb.

PHENACETIN.—2s. 5d. to 2s. 8d. per lb.

PHENAZONE.—3s. 9d. to 4s. per lb.

PHENOLPHTHALEIN.—6s. to 6s. 3d. per lb.

POTASSIUM BITARTRATE 99/100% (Cream of Tartar).—95s. per cwt., less 2½ per cent.

POTASSIUM CITRATE.—B.P.C., 2s. 6d. to 2s. 10d. per lb.;

POTASSIUM FERRICYANIDE.—1s. 9d. per lb., in cwt. lots.

POTASSIUM IODIDE.—16s. 8d. per lb., according to quantity.

POTASSIUM METABISULPHITE.—6d. per lb., 1-cwt. kegs included, f.o.r. London.

POTASSIUM PERMANGANATE.—B.P. crystals, 5½d. per lb., spot.

QUININE SULPHATE.—1s. 8d. per oz., bulk in 100 oz. tins.

RESORCIN.—2s. 10d. to 3s. per lb., spot.

SACCHARIN.—47s. per lb.; in quantity lower.

SALOL.—2s. 3d. to 2s. 6d. per lb.

SODIUM BENZOATE, B.P.—1s. 8d. to 1s. 11d. per lb.

SODIUM CITRATE, B.P.C., 1911—2s. 4d. to 2s. 8d. per lb., B.P.C. 1923—2s. 5d. to 2s. 8d. per lb. U.S.P., 2s. 6d. to 2s. 9d. per lb., according to quantity.

SODIUM FERROCYANIDE.—4d. per lb., carriage paid.

SODIUM HYPOSULPHITE, PHOTOGRAPHIC.—£15 per ton, d/d consignee's station in 1-cwt. kegs.

SODIUM NITROPRUSSIDE.—16s. per lb.

SODIUM POTASSIUM TARTRATE (ROCHELLE SALT).—95s. to 102s. (d. per cwt. Crystals, 4s. per cwt. extra.

SODIUM SALICYLATE.—Powder, 1s. 9d. to 1s. 10d. per lb. Crystal, 1s. 10d. to 2s. per lb.

SODIUM SULPHIDE, PURE RECRYSTALLISED.—10d. to 1s. 1d. per lb.

SODIUM SULPHITE, ANHYDROUS.—£27 10s. to £28 10s. per ton, according to quantity. Delivered U.K.

SULPHONAL.—6s. 6d. to 6s. 9d. per lb.

TARTAR EMETIC, B.P.—Crystal or powder, 2s. 1d. per lb.

THYMOL.—Puriss., 9s. 6d. to 9s. 9d. per lb., according to quantity. Firmer. Natural, 13s. 6d. per lb.

### Perfumery Chemicals

ACETOPHENONE.—7s. per lb.

AUBEPINE (EX ANETHOL).—10s. per lb.

AMYL ACETATE.—2s. 6d. per lb.

AMYL BUTYRATE.—4s. 9d. per lb.

AMYL SALICYLATE.—2s. 9d. per lb.

ANETHOL (M.P. 21/22° C.).—5s. 3d. per lb.

BENZYL ACETATE FROM CHLORINE-FREE BENZYL ALCOHOL.—2s. per lb.

BENZYL ALCOHOL FREE FROM CHLORINE.—2s. per lb.

BENZALDEHYDE FREE FROM CHLORINE.—2s. 6d. per lb.

BENZYL BENZOATE.—2s. 6d. per lb.

CINNAMIC ALDEHYDE NATURAL.—15s. 6d. per lb.

COUMARIN.—9s. 6d. per lb.

CITRONELLOL.—13s. 6d. per lb.

CITRAL.—8s. 3d. per lb.

ETHYL CINNAMATE.—6s. per lb.

ETHYL PHTHALATE.—2s. 6d. per lb.

EUGENOL.—10s. 6d. per lb.

GERANIOL (PALMAROSA).—23s. per lb.

GERANIOL.—6s. 6d. to 11s. per lb.

HELIOTROPINE.—4s. 6d. per lb.

ISO EUGENOL.—14s. 6d. per lb.

LINALOL.—Ex Bois de Rose, 15s. per lb. Ex Shui Oil, 10s. 6d. per lb.

LINALYL ACETATE.—Ex Shui Oil, 14s. 6d. per lb. Ex Bois de Rose, 18s. 6d. per lb.

METHYL ANTHRANILATE.—8s. 6d. per lb.

METHYL BENZOATE.—4s. per lb.

MUSK KETONE.—35s. per lb.

MUSK XYLOL.—7s. per lb.

NEROLIN.—3s. 6d. per lb.

PHENYL ETHYL ACETATE.—11s. per lb.

PHENYL ETHYL ALCOHOL.—10s. 6d. per lb.

RHODINOL.—38s. per lb.

SAFROL.—1s. 6d. per lb.

TERPINEOL.—1s. 6d. per lb.

VANILLIN.—16s. 6d. per lb.

### Essential Oils

ALMOND OIL.—Foreign S.P.A., 10s. 6d. per lb.

ANISE OIL.—2s. 9d. per lb.

BERGAMOT OIL.—26s. per lb.

BOURBON GERANIUM OIL.—20s. per lb.

CAMPHOR OIL.—9d. per lb.

CANANGA OIL, JAVA.—12s. per lb.

CINNAMON OIL LEAF.—6s. 9d. per oz.

CASSIA OIL, 80/85%.—7s. per lb.

CITRONELLA OIL.—Java, 2s. per lb., c.i.f. U.K. port. Ceylon, pure, 2s. per lb.

CLOVE OIL (PURE 90/92%).—7s. 6d. per lb.

EUCALYPTUS OIL, AUSTRALIAN, B.P. 70/75%.—2s. 1d. per lb.

LAVENDER OIL.—Mont Blanc, 48/50%, Esters, 15s. 9d. per lb.

LEMON OIL.—16s. per lb.

LEMONGRASS OIL.—4s. per lb.

ORANGE OIL, SWEET.—35s. per lb.

OTTO OF ROSE OIL.—Anatolian, 35s. per oz. Bulgarian, 75s. per oz.

PALMA ROSA OIL.—13s. 9d. per lb.

PEPPERMINT OIL.—Wayne County, 15s. per lb.; Japanese, 8s. 6d. per lb.

PETITGRAIN.—7s. 3d. per lb. Sandalwood, Mysore, 26s. 6d. per lb., 90/95%, 16s. 6d. per lb.



## London Chemical Market

The following notes on the London Chemical Market are specially supplied to THE CHEMICAL AGE by Messrs. R. W. Greeff & Co., Ltd., and Messrs. Chas. Page & Co., Ltd., and may be accepted as representing these firms' independent and impartial opinions.

London, August 30, 1928.

BUSINESS has been fairly active during the period under review and there are only one or two features to report. Prices generally speaking keep extremely firm with an upward tendency. Export demand is fair and quite a good volume of trade is passing.

### General Chemicals

ACETONE is without a quotation to-day, there being practically no supplies available meantime, and a further advance is expected pending the arrival of supplies.

ACID ACETIC is unchanged.

ACID FORMIC is very firm with better business at £47 per ton for 85%.

ACID LACTIC is strong at £43 per ton for 50% by weight for best imported pale quality.

ACID OXALIC is unchanged at £31 to £33 per ton with a good demand.

ACID TARTARIC is quiet and price may be mentioned at round about 1s. 3½d. per lb. to 1s. 4d. per lb.

AMMONIUM CHLORIDE is unchanged.

ALUMINA SULPHATE is firmer and supplies inclined to be short at £6 15s. per ton for 17/18% iron free.

ARSENIC.—There has been a small inquiry and nominally the market is round about £19 per ton.

BARIUM CHLORIDE continues extremely firm with supplies very short, market nominally unchanged at £9 10s. to £10 per ton, ex store.

COPPER SULPHATE is unchanged at £24 per ton, business fair.

CREAM OF TARTAR is in small demand with the quotation remaining at £100 per ton less 2½% for B.P. 99/100%.

FORMALDEHYDE is unchanged at £39 10s. to £40 10s. per ton for 40% by volume, market firm with a fair demand.

LEAD ACETATE is very strong at £42 10s. and £41 per ton for white and brown respectively.

LEAD NITRATE is a fair market at about £36 per ton.

LIME ACETATE is extremely scarce and quotations are difficult to obtain for near delivery.

METHYL ACETONE is almost unobtainable, but the nominal quotation is round about £59 to £60 per ton for 45%.

POTASSIUM CARBONATE is firm at from £25 to £27 per ton.

POTASSIUM CHLORATE is inclined to be harder at £28 to £28 10s. Demand good.

POTASSIUM PERMANGANATE is unchanged at 5½d. to 5½d. per lb., f.o.b.

POTASSIUM PRUSSATE is unchanged at £62 10s. to £65 10s., with a good demand.

SODIUM ACETATE is firm with an advancing tendency at £21 to £22 per ton.

SODIUM PHOSPHATE is a good market at £12 10s. to £13 per ton.

SODIUM PRUSSATE is unchanged and a firm market at 4½d. to 5d. per lb.

SODIUM SULPHIDE is unchanged.

TARTAR EMETIC is very firm at 11½d. per lb.

ZINC SULPHATE is inclined to be firmer at £11 10s. to £11 15s. per ton.

### Coal Tar Products

There is little change to report in the market for coal tar products from last week.

MOTOR BENZOL is firm at 1s. 5d. per gallon, on rails.

SOLVENT NAPHTHA is firm at 1s. 1½d. per gallon, f.o.r. makers' works.

HEAVY NAPHTHA is also firm at 1s. 1d. to 1s. 1½d. per gallon, on rails.

CREOSOTE OIL remains weak, the price in the North being about 6d. per gallon, f.o.r., and 6½d. per gallon in London.

CRESYLIC ACID is unchanged, the 98/100% quality being quoted at 2s. 2d. per gallon, f.o.b., while the dark quality 95/97% is quoted at about 1s. 10d. per gallon, f.o.b. naked.

NAPHTHALENES are steady, the 74/76 quality being quoted at £5 per ton, and the 76/78 quality at £6 to £6 10s. per ton.

PITCH.—The market is unsettled and prices are nominal at around 50s. to 55s. f.o.b.

### Nitrogen Products

*Sulphate of Ammonia.*—The price for export remains unchanged. It is understood that good sales continue to be made. In the home market some of the larger merchants continue to cover their winter and spring requirements, but the demand for prompt delivery continues small.

*Nitrate of Soda.*—The prices per ton have now been announced for Great Britain as follows:—

	£	s.	d.
September .....	10	0	0
October .....	10	2	0
November .....	10	4	0
December .....	10	6	0
January .....	10	8	0
February .....	10	10	0
March .....	10	12	0
April .....	10	13	0

Delivered to consumer's station in 5-ton lots.

Information of other terms of sale is not yet to hand. It is understood that delivered prices to consumers in Ireland will also be quoted, and that these should be about 10s. per ton higher. Since the announcement of the price of 16s. per metric quintal, f.a.s. Chile, no reports have reached us of increased sales, but we anticipate that large buying should commence shortly.

### South Wales By-Products

SOUTH WALES by-product activities continue to be featureless, with values generally unchanged. Pitch has a quiet demand round about 56s. to 60s. per ton delivered. Crude tar has a slightly better call at from 55s. to 60s. per ton f.o.r. maker's works. Refined tars are not so much in evidence, but values are unchanged, coke oven selling at from 7½d. to 8d. per gallon delivered, and gasworks tar at from 7½d. to 7¾d. per gallon delivered. Crude naphthalene, which has little or no demand, continues to be quoted round about the 80s. per ton f.o.r. maker's works mark, while whizzed is about 90s. per ton f.o.r. maker's works. Patent fuel and coke exports are stationary, but a big improvement is expected next month. Patent fuel, ex-ship Cardiff, is unchanged at from 20s. 6d. to 22s. per ton; ex-ship Swansea, from 1s. to 2s. less. Coke, best foundry, 32s. 6d. to 37s. per ton, furnace from 19s. to 21s. per ton, and other sorts from 25s. to 32s. 6d. per ton.

### Latest Oil Prices

LONDON, August 29.—LINSEED OIL was steady for near and firmer for new year months. Spot, £28 10s.; August, £27 12s. 6d.; September to December, £27 12s. 6d.; January to April, £28 2s. 6d.; May to August, £28 12s. 6d. RAPE OIL.—Crude extracted, £40 10s.; technical refined, £42 10s. COTTON OIL.—Egyptian crude, £32; refined common edible, £37 10s.; deodorised, £39 10s. TURPENTINE.—American, spot, 41s. 9d., and September to December, 42s. 9d. per cwt.

HULL, August 29.—LINSEED OIL.—Spot and August, £27 15s.; September to December, £27 17s. 6d.; January to April, £28 2s. 6d. per ton, asked. COTTON OIL.—Bombay crude, £29; Egyptian crude, £29 15s.; edible refined, £33 15s.; technical, £33; deodorised £35 15s. per ton, naked. PALM KERNEL OIL.—Crushed, 5½ per cent., £37 per ton, naked. GROUNDNUT OIL.—Crushed/extracted, £37 15s.; deodorised, £41 15s. per ton. SOYA OIL.—Extracted and crushed, £32 10s.; deodorised, £36 per ton. RAPE OIL.—Crude extracted, £40 15s.; refined, £42 15s. per ton, net cash terms, ex mill. TURPENTINE, CASTOR OIL, and COD OIL unaltered.

### Advance in Prices of Mercurials

MAY AND BAKER, LTD., announce that the increased cost of quicksilver necessitates an advance in the prices of mercurials. They now quote:—

	For assorted lots or contracts.			
	Under 112 lb.	Over 112 lb.	Per lb.	Per lb.
	s. d.	s. d.	s. d.	s. d.
Ammoniated Lump B.P. (White Precip).....	6	4	6	3
Ammoniated Powder .....	6	5	6	4
Bichloride Lump B.P. (Corros. Sub.) .....	6	2	6	1
Bichloride Pdr. B.P. or granular.....	5	7	5	6
Chloride B.P. (Calomel) .....	6	9	6	8
Red Oxide Cryst. B.P. (Red Precip) .....	7	11	7	10
Red Oxide Levig B.P. ....	7	5	7	4
Yellow Oxide B.P. ....	7	3	7	2
Persulphate White B.P.C. ....	6	6	6	5
Sulphide Black (Hyd. Sulph. cum Sulph. 50 per cent.) .....	6	3	6	2

## Scottish Chemical Market

*The following notes on the Scottish Chemical Market are specially supplied to THE CHEMICAL AGE by Messrs. Charles Tennant and Co., Ltd., Glasgow, and may be accepted as representing the firm's independent and impartial opinion.*

Glasgow, August 29, 1928.

THE heavy chemical market continues quiet, but export inquiry during the past week has again been rather better. Prices remain on the same level as last reported.

### Industrial Chemicals

- ACETONE, B.G.S.—Nominally £70 to £73 per ton, ex store, but very little available for spot delivery.
- ACID ACETIC, 98/100%—Glacial, £56 to £67 per ton, according to quality and packing, c.i.f. U.K. ports; 80% pure, £37 10s. per ton, ex wharf; 80% technical, £37 10s. per ton, ex wharf.
- ACID BORIC.—Crystals, granulated or small flakes, £30 per ton; powder, £32 per ton packed in bags, carriage paid U.K. stations.
- ACID CARBOLIC, ICE CRYSTALS.—Quoted 6½d. per lb., delivered or f.o.b. U.K. ports.
- ACID CITRIC, B.P.—Offered for spot delivery at 1s. 11d. per lb., less 5%, ex store. Quoted 1s. 10½d. per lb., less 5%, ex wharf to come forward.
- ACID HYDROCHLORIC.—Usual steady demand. Arsenical quality, 4s. per carboy; dearsenicated quality, 5s. 6d. per carboy, ex works, full wagon loads.
- ACID NITRIC.—80% quality, £24 10s. per ton, ex station, full truck loads.
- ACID OXALIC, 98/100%.—On offer from the Continent at 3½d. per lb., ex wharf. Spot material quoted 3½d. per lb., ex store. In better demand.
- ACID SULPHURIC.—£2 15s. per ton, ex works, for 144° quality; £5 15s. per ton for 168° quality. Dearsenicated quality, 20s. per ton extra.
- ACID TARTARIC, B.P. CRYSTALS.—Quoted 1s. 4d. per lb., less 5%, ex wharf, prompt shipment from the Continent. Spot material available at 1s. 4½d. per lb., less 5%, ex wharf.
- ALUMINA SULPHATE.—On offer at £5 10s. per ton, c.i.f. U.K. ports. Spot material quoted £5 15s. per ton, ex store.
- ALUM, LUMP POTASH.—Quoted £8 7s. 6d. per ton, c.i.f. U.K. ports, prompt shipment from the Continent. Crystal meal quoted £8 10s. per ton, ex store.
- AMMONIA, ANHYDROUS.—Quoted 9½d. per lb., carriage paid. Containers extra and returnable.
- AMMONIA CARBONATE.—Lump, £37 per ton, powdered, £39 per ton, packed in 5 cwt. casks delivered or f.o.b. U.K. ports.
- AMMONIA LIQUID, 88°.—Unchanged at about 2½d. to 3d. per lb., delivered, according to quantity.
- AMMONIA MURIATE.—Grey galvanisers' crystals of British manufacture quoted £21 to £22 per ton, ex station. Fine white crystals offered from the Continent at about £17 5s. per ton, c.i.f. U.K. ports.
- ANTIMONY OXIDE, 98/100%.—Spot material available at about £44 per ton, ex store, but considerably cheaper prices are quoted for prompt shipment.
- ARSENIC, WHITE POWDERED.—On offer for prompt despatch from mines at £19 per ton, ex wharf. Spot material quoted £20 per ton, ex store.
- BARIUM CARBONATE, 98/100%.—English material on offer at £7 5s. per ton, ex store. Continental quoted £7 per ton, c.i.f. U.K. ports.
- BARIUM CHLORIDE.—Still scarce for spot delivery and price round about £9 per ton, ex store named. Offered from the Continent at about £7 15s. per ton, c.i.f. U.K. ports.
- BLEACHING POWDER.—British manufacturers' contract price to consumers, £6 12s. 6d. per ton, delivered minimum four-ton lots. Continental on offer at £6 10s. per ton, ex wharf.
- CALCIUM CHLORIDE.—British manufacturers' price, £4 5s. to £4 15s. per ton, according to quantity and point of delivery. Continental material on offer at £3 12s. 6d. per ton, c.i.f. U.K. ports.
- COPPERAS, GREEN.—Unchanged at about £3 10s. per ton, f.o.r. works or £4 12s. 6d. per ton, f.o.b. U.K. ports for export.
- COPPER SULPHATE.—On offer from the Continent at about £23 15s. per ton, c.i.f. U.K. ports, but spot parcels of British material offered at about £23 per ton, ex store.
- FORMALDEHYDE, 40%.—Quoted £35 10s. per ton, c.i.f. U.K. ports. Spot material on offer at £38 per ton, ex store.
- GLAUBER SALTS.—English material unchanged at £4 per ton, ex store or station. Continental quoted £2 15s. per ton, c.i.f. U.K. ports.
- LEAD, RED.—Spot material available at about £30 10s. per ton, ex store. Offered at £29 per ton, c.i.f. U.K. ports to come forward.
- LEAD, WHITE.—£35 15s. to £37 per ton, c.i.f. U.K. ports.
- LEAD ACETATE.—White crystals quoted £41 15s. per ton, ex store. Brown on offer at about £40 per ton, ex store.
- MAGNESITE, GROUND CALCINED.—Quoted £8 10s. per ton, ex store, in moderate demand.
- METHYLATED SPIRIT.—Industrial quality 64 O.P. quoted 1s. 4d. per gallon, less 2% delivered.
- POTASSIUM BICHROMATE.—4½d. per lb. delivered, minimum four-ton lots. Under four-ton lots ½d. per lb. extra.
- POTASSIUM CARBONATE, 96/98%.—Offered from the Continent at £25 per ton, c.i.f. U.K. ports. Spot material available at £26 per ton, ex store.
- POTASSIUM CHLORATE, 99½/100%. POWDER.—Quoted £23 per ton, c.i.f. U.K. ports. Crystals, 20s. per ton extra.
- POTASSIUM NITRATE.—Refined granulated quality quoted £19 2s. 6d. per ton, c.i.f. U.K. ports. Spot material on offer at about £20 10s. per ton, ex store.
- POTASSIUM PERMANGANATE, B.P. CRYSTALS.—Quoted 5½d. per lb., ex wharf.
- POTASSIUM PRUSSIAN (YELLOW).—Rather scarcer for spot delivery, and now 6½d. per lb., ex store. Offered from the Continent at 6½d. per lb. ex wharf, prompt shipment.
- SODA CAUSTIC.—Powdered, 98/99%, £17 17s. 6d. per ton; solid, 76/77%, £14 10s. per ton, and 70/72%, £13 12s. 6d. per ton, minimum four-ton lots, carriage paid on contract. Spot material, 10s. per ton extra.
- SODIUM ACETATE.—Spot material on offer at about £22 per ton, ex store.
- SODIUM BICARBONATE.—Refined recrystallised £10 10s. per ton, ex quay or station. M.W. quality, 30s. per ton less.
- SODIUM BICHROMATE.—Quoted 3d. per lb., delivered buyers' works, minimum four-ton lots. Under four and over two-ton lots, ½d. per lb. extra. Under two ton-lots, 3½d. per lb.
- SODIUM CARBONATE (SODA CRYSTALS).—£5 to £5 5s. per ton, ex quay or station. Powdered or pea quality, 27s. 6d. per ton extra. Light soda ash, £7 3s. 9d. per ton, ex quay, minimum four-ton lots with various reductions for contract.
- SODIUM HYPOSULPHITE.—Large crystals of English manufacture quoted £8 17s. 6d. per ton, ex station, minimum four-ton lots. Pea crystals on offer at £14 15s. per ton, ex station, minimum four-ton lots.
- SODIUM NITRITE, 100%.—Quoted £19 10s. per ton, ex store.
- SODIUM PRUSSIAN.—In moderate demand. Spot material quoted 4½d. per lb., ex store.
- SODIUM SULPHATE (SALTCAKE).—Prices 50s. per ton, ex works, 52s. 6d. per ton delivered for unground quality. Ground quality 2s. 6d. per ton extra.
- SODIUM SULPHIDE.—Prices for home consumption: solid, 60/62%, £9 per ton; broken, 60/62%, £10 per ton; crystals, 30/32%, £7 2s. 6d. per ton delivered, buyers' works on contract, minimum four-ton lots. Special prices for some consumers. Spot material, 5s. per ton extra.
- SULPHUR.—Flowers, £12 per ton; roll, £10 15s. per ton; rock, £10 12s. 6d. per ton; ground American, £9 5s. per ton, ex store.
- ZINC CHLORIDE.—British material, 98/100%, quoted £24 15s. per ton, f.o.b. U.K. ports; 98/100%, solid, on offer from the Continent at about £12 15s. per ton, c.i.f. U.K. ports. Powdered 20s. per ton extra.
- ZINC SULPHATE.—Quoted £11 per ton, ex wharf, prompt shipment from the Continent.

NOTE.—The above prices are for bulk business and are not to be taken as applicable to small parcels.

### American Potash Consumption

ACCORDING to Mr. Robert Kunze, co-director of the Potash Export Corporation of Holland, the American potash industry has grown so large that it can offer real competition to Germany and France, whereas before the war it was almost non-existent. A production of 50,000 tons annually has been reached at Searles Lake, California, and borings made in Texas, New Mexico, and other states where potash deposits are believed to exist offer a prospect that the domestic production may be considerably augmented. The world increase in potash consumption by 50 per cent. between 1913 and 1927 was matched by an increase of less than 13 per cent. in the United States, due to the failure of imports in the war. At the normal rate of increase which prevailed in America before the war, the country has fallen 5,500,000 tons in arrears in potash consumption since 1913. Mr. Kunze stated that he would recommend European producers to be prepared to meet a big increase in the American demand for potash in the near future.

## Manchester Chemical Market

(FROM OUR OWN CORRESPONDENT.)

Manchester, August 30, 1928.

RELATIVELY little change in conditions on the chemical market here during the past week falls to be reported. Aggregate deliveries against contracts are naturally seriously affected by the depressed state of the cotton trade, but apart from this, a not unsatisfactory business is being done. Inquiries for chemicals on the open market are on a moderate scale, although these continue to refer to small parcels for early delivery.

### Heavy Chemicals

A quiet trade has passed this week in hyposulphite of soda, quotations for which keep fairly steady at £15 10s. per ton for the photographic kind and about £9 15s. for the commercial. Bichromate of soda is in quietly steady request with practically no change in prices, current offers being in the neighbourhood of 3½d. per lb. Chlorate of soda seems to be lacking in strength, and a comparatively limited business has been done at about 2½d. per lb. With regard to bicarbonate of soda, values of this are well maintained at £10 10s. per ton, and inquiry continues on a fair scale. Quotations for sulphide of sodium have been shaded a little and buying interest is slow; commercial is obtainable at rather less than £8 per ton, and 60-65 per cent. concentrated solid at about £9 10s. Caustic soda is a fairly active section at firm prices, these ranging from £13 7s. 6d. to £15 7s. 6d. per ton, according to grade. Alkali is in a somewhat similar position, quotations being maintained on the basis of £6 2s. 6d. per ton. Bleaching powder is moving in moderate quantities, and at £6 15s. to £7 per ton quotations are not too strong. Current offers of phosphate of soda range from £12 to £12 10s. per ton, a quiet trade being reported. Saltcake is on the slow side, but prices are maintained on the contract basis of £2 12s. 6d. per ton. Prussiate of soda is steady and meets with a fair demand at from 4½d. to 5½d. per lb., according to quantity.

In spite of a somewhat poor call for permanganate of potash, values are a shade stronger than of late, with B.P. quality at from 5½d. to 5¾d. per lb. and commercial at about 5d. In the case of chlorate of potash a quiet trade is being put through, and offers are about unchanged on the week at 2½d. per lb. Carbonate of potash is meeting with a moderate amount of inquiry, with current quotations for this material at round £25 per ton. Caustic potash continues firm and is in moderate demand at £33 5s. per ton for prompt delivery of 1 to 5-ton lots. Yellow prussiate of potash is steady and in fair request at from 6½d. to 7½d. per lb., according to quantity. Bichromate of potash is well held at from 4d. to 4½d. per lb.

Only a moderate business is passing just now in sulphate of copper, and prices have an easy tendency at from £25 to £25 10s. per ton, f.o.b. Buying interest in arsenic remains rather subdued, with current offers varying from about £16 10s. to £17 per ton at the mines for white powdered, Cornish makes. The lead products are moving off in relatively small parcels, and easiness is in evidence, nitrate being quoted at round £36 per ton, and acetate at £39 10s. to £40 per ton for white and about £38 10s. for brown. Acetate of lime meets with a fair amount of inquiry, and values have been about maintained at recent levels, grey offering at round £16 10s. per ton and brown at £9.

### Acids and Tar Products

Tartaric acid is steady and, if anything, a shade dearer than a week ago, a moderate business having been done at from 1s. 4d. to 1s. 4½d. per lb. The higher prices being asked for citric acid has been maintained, current offers of this material being at round 2s. per lb. With regard to acetic acid, this is attracting a fair amount of attention, and quotations are steady at about £67 per ton for glacial and £36 for the 80 per cent. commercial grade. Interest in oxalic acid seems to be rather slow just now, but values are held at about 3½d. per lb.

Among the by-products, pitch is selling in small quantities and prices are easy and nominal at about £2 7s. 6d. per ton, f.o.b. Solvent naphtha keeps firm at about 1s. 2d. per gallon on the possibility of an early advance. Creosote oil is steady and in moderate demand at round 6½d. per gallon, at works. Crystal carbolic acid is in fair request at 6½d. per lb., with crude on the easy side at about 2s. 1d. per gallon.

## Soap Co.'s Compulsory Winding-Up

### Official Receiver's Report

UNDER a compulsory winding-up order made last January against The Standard Soap Co., Ltd., Ashby-de-la-Zouche, the report of the Official Receiver, who is also acting as liquidator, has been issued to the creditors and shareholders. The accounts show total liabilities £61,175, of which £27,530 is in respect of loans on debentures, and assets valued at £30,676, a deficiency of £64,748 with regard to contributories, the issued capital being returned at £34,500.

The report states the the company was incorporated as a private company in July, 1925, with a nominal capital of £10,000, subsequently increased to £39,500; it was promoted by John Lindner and William Ewart Gladstone Cornish with the object of acquiring the assets and business of Ashby Soaps, Ltd., then being carried on by a receiver appointed by the debenture holders of that company. At the end of August, 1925, Lindner personally contracted with the receiver to purchase the assets, undertaking and goodwill for £17,000 in cash. No purchase agreement appears to have been executed by the Standard Company, but according to the vendor's account in the company's books Lindner and Cornish sold to the company the property for £39,000 in cash and shares. The company's plant was found to be unsuitable for producing soap powder, and this necessitated the installation of new machinery. The company continued the manufacture of household soaps, but this commodity was not profitable, and further capital had to be raised to meet the cost of alterations at the works.

The company's works are stated by Lindner to have been bearing satisfactory production by May, 1926, when cessation of work in the mining districts, the company's chief market, caused a heavy falling off in the demand. The accounts for the 16 months ended December 31, 1927, disclose a net loss of £33,100. Various sets of debentures were created, and on December 29, 1927, execution having been levied at the company's works, Mr. H. A. McCann, C.A., was appointed receiver on behalf of the bondholders. Since the liquidation the receiver has disposed of the business and assets as a going concern for £29,000, after having obtained a valuation of the assets from a firm of valuers of repute. According to an account which has been furnished by the receiver, the moneys realised by him will be insufficient to discharge the claims of the debenture holders in full. In these circumstances there is no possibility of any surplus being available in the liquidation for the benefit of the unsecured creditors.

In conclusion the Official Receiver reports that while the issued share capital of £34,500 is shown as having been subscribed for cash, the greater proportion of the shares were issued in payment of the purchase consideration for the business, the matter being carried out by means of certain cross-cheque transactions, with the result that only £2,500 working capital was obtained from the issue of the share capital.

### New Industry for Hull

THERE is a prospect of a new industry being established in Hull, if negotiations now stated to be in progress between the L.N.E. Railway and Distillers, Ltd., are carried to a successful conclusion. It is understood that the subject of negotiation is thirty-three acres of land at Salt End. Commercial alcohol has been manufactured there for some time, and although it is understood that the new works will require a largely increased importation of molasses, the precise nature of the industry has not been revealed. It is stated that it will be new to Hull and of considerable extent and importance. Salt End is just over the eastern boundary of Hull on the Humber side.

### A Dutch Synthetic Fertiliser Factory

ACCORDING to the United States Department of Commerce, the first Dutch synthetic nitrogen fertiliser plant is to be erected at the Ijmuiden iron and steel works of the Koninklijke Nederlandsche Hoogovens en Staalfabriek. The work is expected to begin immediately, under a separate company which is to be formed for the administration of the new industry. Hitherto fertilisers have been imported from Germany and Chile.



## Company News

**MONTECATINI CHEMICAL CO., OF MILAN.**—The "introduction" of the Italian company's shares is stated to have been a great success. Only 10 per cent. of the subscriptions will be allotted.

**LIMMER AND TRINIDAD LAKE ASPHALT.**—An interim dividend for the half-year ended June 30 is announced, at the rate of 12 per cent. per annum, free of tax, on the participating preference and ordinary shares, payable on September 10.

**STAVELEY COAL AND IRON CO.**—A final dividend is announced of 6d. per share on the fully-paid, and *pro rata* on the partly-paid shares, making 5 per cent., free of tax, for the year ended June 30. A year ago a final dividend of 5 per cent. was declared, making 7½ per cent., free of tax, for the year.

**PINCHIN, JOHNSON AND CO.**—The directors, in a preliminary report, state that the profits for the half-year ended June 30 last show a very substantial increase over the corresponding period of the previous year, and they have resolved to declare an interim dividend of 10 per cent., actual, less tax, on the ordinary shares, payable on September 8 next.

**GOODGLASS, WALL AND CO.**—Presiding at the annual meeting of shareholders, at Liverpool, on August 23, Mr. John Byrne said that although the past year's profits were £1,211 less than in the previous year, the results were so satisfactory that the directors were able to increase the dividend to 17½ per cent. The trade outlook in their business seemed to be very promising, and steps are being taken to increase their output. New methods of selling their products were to be put into operation in order to bring about additional turnover. The Board intend to take part in the development of an entirely new business, which will be associated with the company's paint business.

**UNITED INDIGO AND CHEMICAL CO.**—The report for the year ended June 30 last states that after providing for depreciation of plant and machinery, bad debts, directors' remuneration, and all other charges, there remains a profit (including £15,282 brought forward) of £36,349. The directors recommend a dividend on ordinary shares for six months to June 30, 1928, at rate of 5 per cent. per annum, a further dividend of 3½ per cent. on preference shares, and further dividend of 3½ per cent. on ordinary shares, making 8½ per cent. for year on each class of shares, carrying forward £15,568. The annual meeting will be held in Manchester on September 5, at 11 a.m.

## Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal" have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

**WHITE LEAD AND LINSEED OIL.**—A firm of importers and manufacturers' agents in Vancouver desire to establish a connection with a British manufacturer of white lead (Stack process) and linseed oil; they also require offers of earth colours. (Reference No. 181.)

**CHEMICALS AND DRUGS.**—A commission agent of Lima is desirous of securing the representation of British firms manufacturing stearine, paraffin, linseed oil, chemicals and drugs (and in particular glycerine and caustic soda) and house paint. (Reference No. 200.)

## Tariff Changes

**SPAIN.**—The Spanish Government has decided to impose a tax of one hundred pesetas per ton on lead used in Spain in the manufacture of paint.

**EXPORTS OF CHEMICALS** from Czecho-Slovakia in June this year were valued at 17,000,000 crowns, and in the period January to June at 101,000,000 crowns, compared with 92,000,000 crowns in the corresponding period in 1927.

**IMPORTS OF BUTANOL** into the United States for the past six years have been as follows: 1922, 7 lb., valued at \$5; 1923, 9,699,112 lb., valued at \$186,352; 1924, 404,882 lb., valued at \$97,861; 1925, 2,512,092 lb., valued at \$392,770; 1926, 205,317 lb., valued at \$33,237; and 1927, 31,751 lb., valued at \$5,569.

## Key Industry Duty

### New Regulations Governing Entry of Goods

THERE has just been issued by H.M. Customs a leaflet giving particulars of the new regulations governing the entry of goods liable to Key Industry Duty. The leaflet is entitled "Ad Valorem Duties; Evidence of Value," and reads as follows:—

In view of difficulties that have arisen in connection with the declarations of value on Customs entries for goods liable to *ad valorem* duties the following statement is issued for the guidance of importers or agents concerned in the passing of import entries at this port. Special attention is directed to the procedure outlined at paragraphs 2 and 3, which will be put into operation on September 1, 1928.

1. *Acceptability of invoice price.*—There is no obligation on the Customs to accept the invoice price as the statutory value for assessment of duty, but where there is a genuine sale of goods outright in the open market in the ordinary course of trade, the importer may declare the value on the basis of the price shown on the invoice on which full and final settlement will be made, plus freight, insurance and other charges and the value so declared will normally be accepted as the basis for assessment of duty. Where, however, the invoice does not represent a sale of goods in the circumstances referred to above, the invoice price can be accepted as a basis of valuation only if the Commissioners are satisfied that it represents the price which would be paid on a purchase of the goods outright by an independent firm.

2. *Certification of invoices.*—In order to establish the acceptability of invoices as a basis for assessment of duty and to obviate any necessity for the detention of goods pending inquiries on this point, the Commissioners invite importers to give one of the certificates provided in Form C.105 (Appendix I).

- (i) Certificate A, in cases where the importer is an independent purchaser.
- (ii) Certificate B where the importer is an agent of, or associated with, the consignor.
- (iii) Certificate C where the invoices are on a basis agreed with the Commissioners.

Certificate A is a declaration to be made by or on behalf of the importer in the case of goods imported on a purchase outright. Certificate B is a declaration in the case of goods imported either by an agent or consignor or by a firm wholly or partly under the same control as that of the consignor. Among the points raised in Certificate B is the fact that goods not shown on the invoice as already sold have not been sold to any person or firm in this country, but have been consigned to the importers for sale in this country at the prices shown on the invoice; in regard to this the person making the declaration undertakes to furnish evidence of the actual price realised by the sale of these goods or any part of them if called upon to do so by an officer of Customs and Excise.

3. *Express Traffic.*—In the case of importation by Express Services the Commissioners recognise that it may not always be practicable to produce the certificate at the time the entry for the goods is made. In such cases, therefore, invoices unaccompanied by the certificate will usually be accepted subject to the agent who presents the entry giving an undertaking to produce a certified invoice within fourteen days from the date of the entry. General undertaking to this effect may be given by agents in the form shown in Appendix II.

Where this procedure is followed, an extra copy of the invoice must be produced with the entry. This invoice will be stamped by the Officer accepting the entry and returned to the agent for the purpose of obtaining the importer's certificate. When received, the certificate accompanied by the invoice should be lodged with the officers at the port at which the entry was accepted.

**AUSTRIAN EXPORTS OF BURNT MAGNESITE** amounted to 97,000 metric tons in 1927, compared with 123,000 metric tons in 1913. The United States is the most important buyer.

**THE FRENCH COMPANY, Société Alsacienne de Produits Chimiques** is to absorb the Société Industrielle de Languedoc. The former company is completing plant which will produce 2 tons of synthetic camphor per day. The Boel-Maletra concern is to absorb the Société des Produits Chimiques de Menessis et Corbie and the Compagnie Française du Silicate pour les Routes.

# For cars, motor boats and electrical risks

An improved C.T.C. Extinguisher.

1. It can be operated in any position.

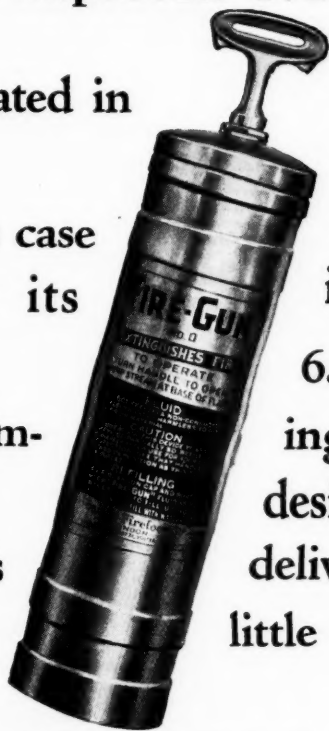
2. Denting of the case does not affect its efficiency.

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5. No solder, which tends to cause corrosion, is used internally.

6. The double-acting pump is of special design to ensure quick delivery of fluid with little effort.



The "Fire-Gun" is designed for the combating of those fires which are so likely to occur on cars and motor boats or around electrical equipment. The special liquid used is a non-conductor of electricity.

If you have not yet seen the "Fire-Gun," one will be sent free for inspection and test.

Should the appliance not be retained, the cost of the return carriage will be sent upon application.

The "Fire-Gun" is approved by the Fire Offices' Committee, the Board of Trade and the Metropolitan Police. Foamite Firefoam, Limited, 55-57, Gt. Marlborough St., London, W.1.

## Foamite Fire Protection

A Complete Engineering Service

Against Fire

## Commercial Intelligence

*The following are taken from printed reports, but we cannot be responsible for any errors that may occur.*

### County Court Judgments

[NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be for damages or otherwise, and the result of bona-fide contested actions. But the Registry makes no distinction of the cases. Judgments are not returned to the Registry if satisfied in the Court books within twenty-one days. When a debtor has made arrangements with his creditors we do not report subsequent County Court judgments against him.

ANGLO-MANX OIL AND GREASE, LTD., Little Bedford Street, North Shields, grease merchants. (C.C., 1/9/28.) £30 os. 2d (July 26) and £14 11s. 5d. July 23.

WILLIAMS, Mr. S. J. P. Lowlas, Pontardulais, chemical manufacturer. (C.C., 1/9/28.) £21 17s. 9d. June 6.

### Mortgages and Charges

[NOTE.—The Companies Consolidation Act of 1908 provides that every Mortgage or Charge, as described therein, shall be registered within 21 days after its creation, otherwise it shall be void against the liquidator and any creditor. The Act also provides that every Company shall, in making its Annual Summary, specify the total amount of debts due from the Company in respect of all Mortgages or Charges. The following Mortgages and Charges have been so registered. In each case, the total debt, as specified in the last available Annual Summary, is also given—marked with an \*—followed by the date of the Summary, but such total may have been reduced.]

ANGLO-HELLENIC OILFIELDS, LTD. (late ANGLO-BULGARIAN OILFIELDS, LTD., and ANGLO-OTTOMAN OILFIELDS, LTD.), London, E.C. (M., 1/9/28.) Registered August 3, by order on terms, £1,500 debentures; general charge. \*Nil. December 31, 1927.

BRITISH BURMAH PETROLEUM CO., LTD., London, E.C. (M., 1/9/28.) Registered August 17, trust deed dated August 14, 1928, securing £475,000 debenture stock and premium of 5 per cent.; charged on property in Upper Burmah and certain shares, etc. (subject, etc.); also general charge. \*£531,419. December 23, 1927.

EAST LANCASHIRE CHEMICAL CO., LTD., Manchester. (M., 1/9/28.) Registered August 16, £5,000 (not ex.) mortgage, to bank; charged on East Lancashire Works, Edge Lane, Droylsden.

ECONOIL, LTD., Cardiff, oil producers. (M., 1/9/28.) Registered August 15, mortgage to bank; charged on property at Cardiff, etc.

HEPPELS, LTD., London, S.W., chemists. (M., 1/9/28.) Registered May 11, £30,000 (not ex.), sub-charge to bank; charged on 16, Grosvenor Place, and 16, Pembroke Mews, S.W., etc.; also registered August 7, debenture to bank; charged on properties at Mitcham, etc.; also general charge. \*£130,720. September 12, 1927.

### Receiverships

STUBBS (HERBERT H.), LTD. (R., 1/9/28.) R. G. H. Adams, of 33, Paternoster Row, E.C.4, was appointed receiver and manager on August 17, 1928, under powers contained in debenture dated October 26, 1926.

DUROGLOSS POLISHES, LTD. (R., 1/9/28.) S. Cole, C.A., of "Fairview," Stanmore, Middlesex, was appointed receiver and manager by order of Court dated August 8, 1928.

### London Gazette, &c.

#### Companies Winding Up Voluntarily

SECTO POLISHES, LTD. (C.W.U.V., 1/9/28.) By reason of its liabilities, August 13, W. B. Pearson, Corporate Accountant, 5, John Street, Bedford Row, London, W.C.1, appointed as liquidator.

BRITISH ALKALOIDS, LTD. (C.W.U.V., 1/9/28.) By special resolution, July 30, confirmed August 22, F. M. Jones, 104, Winchester House, Old Broad Street, London, E.C.2, appointed as liquidator. Meeting of creditors at the office of the liquidator on Monday, September 10, at 3 p.m. (All creditors have been, or will be, paid in full.)

THE "M.B." POWDER CO., LTD. (C.W.U.V., 1/9/28.) By special resolution, August 1, confirmed August 16, J. Ashby, Secretary of W. H. Wakefield and Co., Ltd., Gatebeck Gunpowder Mills, Kendal, appointed as liquidator. Meeting of creditors at the chambers of Russell and Duncan, writers, 105, St. Vincent Street, Glasgow, on Saturday, September 1, at 12 noon. All creditors will be paid in full.

### New Companies Registered

POWER CHEMICAL CO., LTD. Registered August 22. Nom. Capital £1,000 in £1 shares. Manufacturers of and dealers in feed water preparation pipe jointing compounds, belt dressings, paints, oils, greases, heavy chemical cleansing materials, soaps, polishes, disinfectants, radiator compounds, rubber and other solutions, chemicals, jointing and other cements, etc. Directors: T. Chandler, 54, Westwood Road, Sheffield, and Whitby, 30, Westwood Road, Sheffield.

DELFORE CO., LTD., Mangham Road, Parkgate, near Rotherham, Yorks. Registered August 23. Nom. Capital £1,100 in £1 shares. Soap manufacturers, oil and colourmen, chemists, druggists, dyers, etc. Directors: W. R. K. Gandell, 7, Pembroke Studios, Pembroke Gardens, London, W.8, Capt. Hon. John P. Mitford, Hon. Ernest R. Mitford and G. A. Hebden.

ELECTRIC FURNACE CO., LTD., 17, Victoria Street, Westminster, London, S.W.1. Registered as a "public" company on August 23. Nom. capital £200,000 in £1 shares. To acquire the business carried on by the Electric Furnace Co., Ltd. (in liquidation) together with the undertaking and all or any of the assets and liabilities of that company, to adopt an agreement with the said old company and its liquidator, and to carry on the business of contractors builders, civil, electrical, constructional, metallurgical, mechanical, chemical, electro-chemical, mining and general engineers, etc. Directors: D. F. Campbell, W. S. Gifford.

METALLIC INK AND DYE CO., LTD. Registered August 24. Nom. capital £250 in £1 shares. To acquire and turn to account any invention relating to the manufacture and production of metallic ink, dyes and pigments, etc. A director: A. Davies, 194, Casewick Road, West Norwood, London, S.E.27.

### Nitrogen Symposium in U.S.A.

At the meeting of the American Chemical Society, at Swampscott, Mass., on September 12, with Williams Haynes as chairman, there will be a symposium on nitrogen, at which the following papers will be read:—"The New Place of Nitrogen in Chemical Economics," by Jasper E. Crane, president, Lazote, Inc.; "Synthetic Ammonia," by E. M. Allen, president, Mathieson Alkali Works; "Economic Relationships between Nitrogen and Fertilisers," by H. R. Bates, manager, Manufacturing Department, International Agricultural Corporation; "By-Product Nitrogen," by Charles J. Ramsburgh, vice-president, The Koppers Co.; and "The International Nitrogen Problem," by Dr. Walter S. Landis, vice-president, American Cyanamid Co. At the same meeting H. J. Krase will read a paper on "The Work of the Fixed Nitrogen Laboratory on Synthetic Urea." The chemistry of the urea reaction will be discussed, and the effect of water and urea on the carbamate-dehydration reaction indicated, as well as the effect of excess ammonia on the reaction.

MR. H. G. WALKER, formerly of the Ballarat School of Mines, has been appointed lecturer in chemistry at the Working Men's College, Melbourne.

PROFESSOR E. VON GEBAUER-FULNEGG, of the University of Vienna, has been offered the chair of chemistry at the Northwestern University, Chicago.

THE HASTINGS MERCURY MINE, near Vallejo, California, has again been brought into production. An air-compressor and an Andrews rotating mercury oven have been installed.

THE BRITISH CONSUL-GENERAL at KASHGAR reports that imports of dyes into Chinese Turkestan from India are decreasing, as owing to the large import of coloured cotton cloth from Russia less local cotton cloth, for which dyes were required, is being purchased. Paints and dyes were imported from India in 1927 to the value of Rs. 2,26,254.



